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Less is more? Government-imposed resource constraints and SEC regulatory outcomes

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Dissertation

**LESS IS MORE?
GOVERNMENT-IMPOSED RESOURCE CONSTRAINTS
AND SEC REGULATORY OUTCOMES**

by

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LESS IS MORE?
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AND SEC REGULATORY OUTCOMES

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ABSTRACT

I study the effect of government-imposed resource constraints on the Securities and Exchange Commission (“SEC”) filing review process through the SEC’s implementation of a hiring freeze. First, I document that the hiring freeze causes a shift from full cover-to-cover reviews to limited scope reviews that use less staff time. In my primary analysis, I find that the SEC’s propensity to detect financial reporting errors increases 13–16 percent in full scope reviews in comparison to limited scope reviews, implying that the SEC improves resource allocation between review types. However, I also show that the SEC’s response is associated with detecting a lower proportion of the total restatements filed during the period (due to reviewing fewer filings), less deterrence of earnings management, and higher information asymmetry. Overall, my study suggests that government-imposed resource constraints can motivate process improvements in priority areas of regulatory agencies, but only with tradeoffs on other dimensions.

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LIST OF ABBREVIATIONS

ASC.....	Accounting Standards Codification
CIK.....	Central Index Key
Corp Fin	Division of Corporation Finance
DoE	Division of Enforcement
EDGAR.....	SEC’s Electronic Data Gathering, Analysis, and Retrieval system
FIN 48	Financial Accounting Standards Board Interpretation Number 48
FOIA	Freedom of Information Act
GAO	Government Accountability Office
IRS	Internal Revenue Service
MD&A	Management Discussion and Analysis
NASAA.....	North American Securities Administrators Association
OPM.....	Office of Personnel Management
PP&E	Property, Plant, and Equipment
SEC	Securities and Exchange Commission
SIC	Standard Industrial Classification
SOX	Sarbanes-Oxley Act of 2002
TCJA.....	Tax Cuts and Jobs Act of 2017

I. INTRODUCTION

I examine the effect of government-imposed resource constraints on the Securities and Exchange Commission (“SEC”) and its consequences for financial reporting oversight. The SEC’s annual appropriation remained essentially flat at \$1.6 billion from 2016 to 2019, prompting the SEC to implement a hiring freeze from October 2016 through April 2019 (SEC 2018). Prior research has studied workload variation within regulatory agencies but has not examined if government-imposed resource constraints can have offsetting benefits. Government-imposed resource constraints executed through Congressional budget cuts, presidential administration changes, and politically appointed agency leadership could motivate the SEC to alter their processes. Even though there may be less regulatory activity due to resource constraints, the allocation of resources within regulatory agencies could be more effective if stricter government oversight changes staff incentives.

I use the setting of the SEC’s filing review process to answer my research question because the division responsible for this task (the Division of Corporation Finance or “Corp Fin”) experiences the greatest decrease in budget and employees. Furthermore, SEC filing reviews are the primary mechanism for monitoring financial statement disclosures of US public firms (White 2008). Corp Fin regularly reviews public financial statements to ensure corporate accounting and disclosure practices occur in accordance with US GAAP. In the case of identified deficiencies, Corp Fin issues a comment letter to the filing firm requesting clarification. This process concludes with restated financial statements, revised disclosures in already-filed financial statements, disclosure changes in future financial statements, or no changes. Prior research finds that comment letters reduce information

asymmetry evident in bid-ask spreads, but resource constraints can affect the quality of comment letters and diminish their impact on information asymmetry (Johnston and Petacchi 2017; Ege, Glenn, and Robinson 2020). The SEC is required to review public firms' periodic filings at least once every three years but retains discretion on the scope of the review: either a full-scope review (i.e., a cover-to-cover review of the entire 10-K or 10-Q) or a limited scope review (i.e., examining only the financial statements or a targeted issue).

The hiring freeze resulted in a 17 percent decrease in employees dedicated to filing reviews. Over 90 percent of SEC supervisors reported that the hiring freeze increased their workload and SEC leadership stressed their efforts to be more efficient (Fed Manager 2020). For example, SEC Chairman Jay Clayton testified to Congress that the SEC will “leverage our capabilities for risk analysis to inform our decision making...including how most efficiently to use staff resources” (Clayton 2017). I posit that some filings that would have been assigned to full scope review in a less resource-constrained time are instead assigned a limited scope due to the staff shortage. Whether this shift results in a deterioration or improvement in error detection is the key question I examine.

On one hand, the hiring freeze may be associated with a decrease in the SEC's propensity to identify financial reporting errors. In a limited scope review, SEC staff may be unable to identify where to focus and miss errors that would be detected in a full scope review. In this case, the SEC's propensity to detect financial reporting errors in limited scope reviews would decline after the hiring freeze. On the other hand, regulators are influenced by career concerns and have weak performance incentives in comparison to the

private sector (Donelson et al. 2024). While the SEC is an independent agency, the President nominates the Chair (Heese, Khan, and Ramanna 2017). The Chair sets priorities for the SEC that influence the goals of the filing review process. New politically appointed SEC leaders could provide top-down directives that change incentives for review staff, particularly when motivated by Congress through budget cuts (Weingast and Moran 1983). Even though there may be fewer full scope reviews performed after the hiring freeze, the reviews that are performed may be more effective. In this case, the SEC's propensity to detect financial reporting errors in full scope reviews would improve after the hiring freeze.

Importantly, I use the impact of the hiring freeze on review scope as an exogenous shock to investigate the effect of resource constraints on the SEC's financial reporting oversight. The hiring freeze is exogenous to scope assignment because it was implemented at the agency level due to budgetary constraints rather than a factor related to any particular firm's review at the Corp Fin branch level. Using a shock mitigates bias that stems from any unobservable factor that is associated with a firm's selection for review or comment letter receipt and influences the SEC's performance. The SEC still will likely assign the riskiest filings as full scope, but for some range of firm characteristics, the variation is plausibly exogenous.

My primary measure of financial reporting oversight is the SEC's propensity to detect financial reporting errors in a sample of financial statements that receive a comment letter and are later restated (Kubic 2021). I focus on financial reporting errors that prompt restatements because the market finds restatements much more informative than the average comment letter (Palmrose, Richardson, and Scholz 2004; Cunningham and

Leidner 2022). Since all observations in this sample contain a financial reporting error and are reviewed by the SEC, the only variation is if the error was detected by the SEC or not. This approach avoids bias from assuming all financial statements that are not restated are error-free. However, I also examine broader samples and other financial reporting oversight outcomes.

I begin with 10-K and 10-Q comment letter conversations initiated by the SEC from October 1, 2010 – September 30, 2020 (SEC fiscal years 2011–2020). I begin with 2011 because the Dodd-Frank Act of 2010 changed the SEC’s funding structure. I end in 2020 due to the lag necessary to discover errors in the financial statements (Cunningham and Leidner 2022).

First, I validate that the hiring freeze affects review scope. I confirm that full scope reviews are 76 percent less likely after the hiring freeze, and this effect is mitigated in Corp Fin branches with a lower workload per employee, suggesting that the staff shortage prompts more reviews to be assigned limited scope. I also show that the SEC is 51 percent less likely to issue a comment letter after the hiring freeze and focuses on firms with material weaknesses, high market capitalization, and lower financial statement transparency.

In my primary difference-in-difference analysis, I examine if the SEC’s propensity to detect errors in reviews or the effectiveness of its resource allocation between full and limited scope reviews changes after the hiring freeze. I find no evidence that the SEC’s propensity to detect errors in its reviews decreases after the hiring freeze. However, the SEC’s propensity to detect financial statement errors in full scope reviews is 13–16 percent

higher after the hiring freeze as compared to limited scope reviews. These results indicate that reviews moved from full to limited scope achieve similar error detection rates after the hiring freeze, suggesting an improvement in resource allocation between full and limited scope reviews. Said another way, the SEC shifts reviews that would have previously been assigned full scope to limited scope reviews that use less staff time but still detects the same number of errors.

Next, I repeat this analysis in alternative subsets of filings, including a sample of all filings that are restated during my sample period. These tests reveal that while the SEC maintains performance in the filings they review, they detect a lower percentage of total restatements during the hiring freeze because they review fewer filings. However, the goal of the filing review process is to monitor disclosures rather than audit the entire population of filings and the SEC makes a strategic choice on which firms to prioritize, for example, large firms with a greater potential to affect capital markets.

To provide insight into how the SEC maintains error detection in their reviews, I examine the topics and textual characteristics of comments. Former SEC Chair Mary Jo White has noted that special interest groups can influence the SEC to require disclosures that do not fit with the SEC's core mission (White 2013). It is possible that SEC staff are directed to shift their focus from certain topics back to priority areas when faced with resource constraints. Consistent with this idea, I find that filings are 9 percent more likely to receive an accounting comment in full scope reviews as compared to limited scope reviews after the hiring freeze, and less likely to receive a comment on the MD&A, risk factor disclosures, and other regulatory topics. Additionally, the proportion of full scope

reviews with a high percentage of accounting recognition questions increases by 7 percent after the hiring freeze. I also find no evidence that the number of disclosure revisions prompted by full scope reviews changes. Overall, these mechanism tests show that full scope reviews shift from disclosure to recognition content, without decreasing the number of actual disclosure revisions that firms make in response. These results suggest that a more focused selection of comment topics enable the SEC to absorb budget cuts without sacrificing its ability to identify accounting deficiencies in filing reviews.

In additional analyses, I investigate if the SEC response to resource constraints had other consequences on filing review performance, firm financial reporting, or market reactions. First, I consider if the hiring freeze reduces the SEC's ability to react to changes in the financial reporting environment by comparing the SEC's propensity to issue tax comments around the effective date of FIN 48 in 2007 and the Tax Cuts and Jobs Act of 2017 ("TCJA")¹. The hiring freeze was in place when the TCJA was passed and a major revenue recognition standard became effective in 2018 (Black, Melessa, and Yuan 2021), which could lead to a less robust oversight response to the TCJA than FIN 48. Consistent with my expectation, I find that firms are 5 percent less likely to receive a tax comment after the TCJA compared to no significant change after FIN 48. However, firms are more likely to receive a revenue comment in the post-TCJA period, indicating that the SEC considers major accounting standard updates after the hiring freeze, but does not focus on all changes to the financial reporting environment.

¹ For more information on the TCJA and FIN 48, an accounting standard requiring the disclosure of uncertain tax benefits, see Section V.

Then, I investigate if firms modify their financial reporting behavior. I compare restatement and earnings management activity of large firms who were likely reviewed but did not receive a comment letter to their peers. I find that large firms that were likely reviewed but did not receive a comment letter increase their accrual earnings management in the subsequent year, suggesting that firms adjust their financial reporting behavior based on the perceived level of SEC oversight.

Lastly, I examine market consequences. I show that comment letters issued during the hiring freeze reduce information asymmetry less than those issued before the hiring freeze, equivalent to an average annual cost to traders of around \$9.2 million. However, I do not find evidence that investors view even high-quality comment letters as informative. These results highlight that the market impact for most filing reviews is small in comparison to filing reviews that identify a restatement, supporting my focus on restatements in my main analysis.

In robustness tests, I find no evidence that the SEC has a higher propensity to detect financial reporting errors during Republican presidential administrations or in firms that are aligned with a particular political party. My results are also robust to Corp Fin branch-year fixed effects, an instrumental variable approach, and matching procedures. Finally, I perform a placebo test using comment letters issued to firms immediately after limited scope reviews and find no results, suggesting my findings are not biased from Corp Fin selecting scope based on unobservable time-invariant firm characteristics.

This paper makes several contributions. First, I contribute to work on the impact of budget constraints on regulators. Nessa, Schwab, Stomberg, and Towery (2020) examines

how Congressional budget cuts affect the Internal Revenue Service (“IRS”) tax return audit process. They show that the IRS examines tax positions supported by weaker taxpayer facts but ultimately collects a lower total amount of tax when resources are limited, suggesting that budget constraints reduce their monitoring effectiveness. Other studies also find evidence of binding budget constraints within the SEC’s Division of Enforcement and the IRS (e.g., Kedia and Rajgopal 2011; Kubick, Lockhart, Mills, and Robinson 2017). Consistent with these studies, I find that Corp Fin reduces regulatory activity when resource constrained. However, my results differ in two important ways. First, my work implies that limited scope reviews are as effective as full scope reviews in detecting financial reporting errors for many filings, whereas IRS audits that use less staff time collect a lower magnitude of tax (Nessa et al. 2020). Second, I show that the SEC changes its review strategy following budget cuts, leading to an improvement in resource allocation between review types with respect to error detection. My results suggest that budget constraints can motivate efficiency gains within regulatory agencies through process improvements in priority areas, at the expense of tradeoffs on other dimensions.

I also contribute to the literature on disclosure regulation (Leuz and Wysocki 2016). My study builds on work that investigates human capital and “busyness” of regulators (e.g., Ege et al. 2020; Gunny and Hermis 2020; Kubic 2021; Bonsall, Holzman, and Miller 2024). I complement prior findings by using a shock-based difference-in-differences design and considering if government-imposed constraints can improve resource allocation, responding to the call to study efficiency and the impact of politics on the filing review process (Cunningham and Leidner 2022).

Finally, I inform the SEC on the effectiveness of recent process adjustments. My work suggests that focusing on accounting over disclosure topics allows the SEC to detect financial reporting errors with less staff time. However, I also document tradeoffs to the SEC's response to budget cuts and am unable to fully quantify all factors that could be affected by their actions (e.g., fraud deterrence, disclosure spillover effects) or the distributional effects of any welfare changes. Nevertheless, my study provides novel insights on the tradeoffs US regulatory agencies face under legislative and executive branch pressure to decrease budgets.

II. BACKGROUND AND HYPOTHESIS DEVELOPMENT

SEC Filing Review Process

The SEC has reviewed corporate financial filings since its formation to monitor and enhance compliance with accounting and disclosure requirements. SOX Section 408(b) formalized the filing review process, requiring that the SEC review public firms' annual or quarterly filings at least once every three years (Cunningham and Leidner 2022). SOX mandates that the SEC consider restatements, stock price volatility, market capitalization, disparities in price-to-earnings ratios, and material sectors of the economy when determining which filers to select for review (Cassell, Dreher, and Myers 2013). However, the SEC may consider other factors and retains discretion on the scope of the review. In particular, the SEC can conduct a full-scope review (i.e., a cover-to-cover review of the entire 10-K or 10-Q) or a limited scope review (i.e., examine only the financial statements or a targeted issue).

Firms are assigned to Corp Fin branches by 4-digit SIC codes so that industry experts review the financials (Cassell et al. 2013). If SEC staff find potential deficiencies, they issue a comment letter to the firm to request more information. Comment letters often contain comments on nine or more topics, and there is significant variation in topics across firms and focus areas over time (Ryans 2021). The conversation continues until the SEC is satisfied or requests that the firm restates past financial statements or changes future disclosures. In 2004, the SEC began releasing comment letter conversations publicly after review completion. However, the SEC does not disclose when firms are reviewed, and therefore one cannot observe when a firm is reviewed if it does not receive a comment

letter. Around 25 percent of firms passed through the three-year review period from 2006–2009 without receiving a comment letter (Deloitte 2016).

The total number of comment letters issued declines from 2010 to 2021. Additionally, the percentage of comment letters that include comments on core financial accounting topics (e.g., revenue, PP&E, tax) also decreases. I depict these trends in Figure 1. Several reasons explain the decline in comment letters (Coleman 2020). First, the SEC states the decline is due to improved disclosures resulting from more frequent reviews and the ability to review other firm’s comment letter conversations. Second, Deloitte (2016) suggests that more selective comments, declining complexity of certain accounting standards, and more communication from the SEC are contributing factors. Descriptively, the decline in comment letters is not associated with an increase in restatements, as restatements have declined during the same period (Coleman 2020). While the number of public companies also decreased, this movement is not enough to explain the trends in comment letters and restatements.

<Figure 1>

Prior Literature and Hypothesis Development

I examine if government-imposed resource constraints affect the SEC’s propensity to identify financial reporting errors and the effectiveness of its resource allocation in the filing review process. One challenge is that an unobservable factor related to a firm’s selection for review or comment letter receipt may influence the SEC’s performance. Accordingly, I use the hiring freeze as a shock to the resources assigned to each review. I posit that one effect of resource constraints is a reduction in the number of filings that

receive a full scope review. I present a conceptual depiction in Figure 2. This graphic shows how the employee shortage may affect scope selection of 10-K and 10-Q reviews based upon the SEC's ex-ante risk assessment of misreporting. A firm that would have received a full scope review given less constrained resources may receive a limited scope review after the hiring freeze.

<Figure 2>

Prior studies examine the relationship between regulatory resources and enforcement. This work builds on Becker's (1968) theory of crime, which posits that the deterrence effect of enforcement is based upon the probability of detection and the expected penalty if detected. Regulatory resources can be used to increase the probability of detection, which should increase firm compliance with regulations. Jackson and Roe (2009) empirically tests this prediction in a cross-country setting and finds that security regulators' resources are associated with stronger public enforcement. Specific to the filing review process, Kubic (2021) develops a measure of SEC error detection based on financial statements that were reviewed by the SEC, receive a comment letter, and are later restated. Using a sample from SEC fiscal years 2005–2014, he documents that cross-sectional variation in accountants and the number of members on the review team are positively associated with error detection. Hills, Kubic, and Mayew (2021) investigates SEC reviews of state-sponsored terrorism disclosures. They find that the likelihood that the SEC fails to identify a financial reporting error increases when a comment letter references state-sponsored terrorism, and these letters are less likely to mention accounting, non-GAAP and MD&A issues.

This line of research suggests that the decline in Corp Fin's resources around the hiring freeze will be associated with a decrease in the SEC's propensity to detect financial reporting errors. A limited scope review has fewer team members and reviews fewer topics, so SEC staff may miss areas with deficiencies that would have been detected in a full scope review. In this case, the propensity of the SEC to detect financial reporting errors in limited scope reviews would decline after the hiring freeze.

On the other hand, regulators are influenced by career concerns and have weak performance incentives in comparison to the private sector (Donelson et al. 2024). For example, a SEC staff survey in 2014 documents that only 24% of Corp Fin employees believe that innovation is rewarded and 8% agree that pay raises depend on how well they perform their jobs, confirming that Corp Fin staff have little incentive to find process improvements before the hiring freeze (OPM 2014). While the SEC is an independent agency with both Democratic and Republican Commissioners, the President nominates the Chair, who is usually the same political party as the President (Heese et al. 2017). Furthermore, SEC Commissioners have become more politically polarized in recent years (Engelberg, Henriksson, Manela, and Williams 2023). The Chair sets priorities for the SEC that influence the goals of the filing review process. New politically appointed SEC leaders could provide top-down directives that change incentives for review staff, particularly when motivated by Congress through budget cuts (Weingast and Moran 1983). Even though there may be fewer full scope reviews performed after the hiring freeze, the reviews that are still performed may be more effective or resource allocation to reviews may improve. Research in the private sector also finds that moderate budget constraints can spur

creativity and innovation (e.g., Acar, Tarakci, and van Knippenberg 2019). In this case, the SEC's propensity to detect financial reporting errors in full scope reviews would improve after the hiring freeze. This possibility is consistent with some evidence within Gunny and Hermis (2020), who find no change in non-SEC initiated restatements when Corp Fin is busy reviewing calendar year-end filings.

Finally, it is even possible that error detection rates in limited scope reviews increase after the hiring freeze. This could occur for at least two reasons. First, filings pushed from a full scope to a limited scope review due to the employee shortage could have a higher base-error rate, making it easier to detect errors in limited scope reviews after the hiring freeze. Second, filings with a lower base-error rate may be pushed from limited scope review to no review after the hiring freeze. However, there is a limit on how few filings the SEC can review given requirements under SOX (i.e., review of all firms over three years). This leads to my hypothesis, which I state in the null:

H1: There is no association between government-imposed resource constraints and the SEC's propensity to detect financial reporting errors in filing reviews.

III. SAMPLE AND DESCRIPTIVE STATISTICS

Sample

I begin with the intersection of Compustat Annual and Audit Analytics comment letter conversations associated with Forms 10-K, 10-Q, 10-KSB, and 10QSB whose initial letter was issued from October 1, 2010 – September 30, 2020 (SEC Fiscal Years 2011–2020). I begin my sample in fiscal year 2011 because the Dodd-Frank Act of 2010 changed the SEC’s funding process. However, my results are robust to using a 2005–2020 sample period. I end my sample in 2020 because of the lag between a firm filing its year-end financials and the comment letter conversation’s availability on Audit Analytics and the lag necessary for discovering errors in the financial statements (Cunningham and Leidner 2022). I include 2020 in my sample period because Corp Fin employees continued to decline. For more discussion on any effect of COVID-19 and other alternative explanations, see Section V.

I use the steps described in Cunningham and Leidner (2022) to ensure that comment letters are matched with the firm’s historical CIK code and period of financial statements reviewed and drop those that cannot be matched². Next, I restrict my sample to filings with the information to construct necessary variables. This results in 6,377 comment letter observations for 2,691 firms, which I use in mechanism analyses. Finally, I identify filings that receive a comment letter and are subsequently restated (Kubic 2021). This results in a sample of 838 observations for 595 firms for my error detection analysis. See Table 1 for

² This means that I exact match each comment letter conversation with the firm-year of financial statement that the SEC reviewed. An observation is assigned to the hiring freeze period if the first comment letter in a conversation was issued during the hiring freeze (i.e., after October 1, 2016).

sample selection details.

<Table 1>

Descriptive Statistics and Correlations

I present descriptive statistics in Table 2, Panel A. 13% of filings that receive a comment letter in my sample are later restated. The SEC's detection ratio on average over the sample period is 19% in the reviewed and restated sample. Panel B documents the number of comment letters issued by the SEC in each year of the sample period. As noted in prior literature, the total number of comment letters issued decreases over time (Cunningham and Leidner 2022). Panel C shows the number of financial reporting errors detected by scope and year. The number of filings with detected errors decreases by year due to both the decrease in comment letters and restatements over time. Panel D presents correlations. The hiring freeze is negatively correlated with full scope reviews, suggesting that resource constraints impact review dynamics. For additional validation that the hiring freeze affected review scope, see the next section. However, there is no significant correlation between the hiring freeze and the SEC's propensity to detect financial reporting errors.

<Table 2>

IV. EMPIRICAL ANALYSES

Effect of Government-Imposed Resource Constraints on Financial Reporting Oversight (H1)

Validation Test – Did Resource Constraints Affect Regulatory Activity?

A challenge in researching the filing review process is that the probability that a firm's financial statements are selected for review and receive a comment letter could be related to an unobservable factor that affects SEC performance. To mitigate potential bias, I use the hiring freeze as a shock to review scope. The hiring freeze is plausibly exogenous to review scope decisions because it was implemented at the agency level, which is unrelated to a particular firm's review at the Corp Fin branch level. Figure 3 plots the number of Corp Fin employees over time and shows that the number of employees decreases by 17 percent during the hiring freeze. The resulting increase in workload per employee may result in additional limited scope reviews that would have been assigned full scope if the SEC were less constrained. This also allows me to test the effectiveness of the SEC's resource allocation between review types.

<Figure 3>

To validate that the hiring freeze affects scope assignment, I examine determinants associated with review scope before and after the hiring freeze for comment letter i in industry j in year t as follows. Corp Fin cannot simply review fewer filings due to requirements under SOX (i.e., review of all firms over three years), but I also examine if the hiring freeze affects the determinants of comment letter receipt.

$$Full_Scope_{it} / CL_{it} = \beta_0 + \beta_1 Hiring_Freeze_t + Controls \times Hiring_Freeze_t + FE + \varepsilon_{it} \quad (1)$$

To identify full scope reviews, I use an indicator equal to 1 if the comment letter's text does not state the review is limited in scope (see Appendix B for examples). CL_{it} is an indicator for comment letter receipt. $HiringFreeze_t$ is an indicator variable equal to 1 for fiscal years during or after the SEC implements a hiring freeze in fiscal year 2017. While the hiring freeze ends in 2019, I consider through 2020 as the post period because the SEC struggled to fill empty positions (Kernisky, Magee, and Mascianica 2022). I provide additional detail on SEC employee and spending data by division in Table IA.1.

I incorporate other variables based upon models of comment letter determinants (e.g., Cassell et al. 2013; Ege et al. 2020; Hills et al. 2021). I include covariates that represent SEC workload, filing review selection criteria under SOX, auditor characteristics, and other firm characteristics. First, I construct a measure to estimate Corp Fin workload by employee at the branch-year level. I calculate this as the number of branch employees over the estimated filing reviews assigned to that branch using data from FOIA requests and WRDS SEC Analytics ($Ees_Per_Review_{jt}$). I also represent SEC “busyness” with an indicator for firms with a December fiscal year end ($FYR12_{it}$, Gunny and Hermis 2020) and an indicator for when Corp Fin is busy reviewing IPOs and mergers ($Spike_{it}$, Ege et al. 2020³). I include material weaknesses in internal controls (MW_{it}), an indicator for a restatement in the past three years ($Restate_{it}$), stock volatility ($High_Volatility_{it}$), and market capitalization ($MVEquity_{it}$), which are factors that SOX Section 408 requires the SEC to consider in the review process. For a list of auditor characteristics and other firm

³ This measure is only available for firms that receive comment letters and therefore is only included in the columns that investigate scope determinants.

characteristics as well as precise definitions, see Appendix A. All continuous variables are winsorized at 1 and 99 percent.

I present results of estimating Eq. (1) in Table 3. Columns (1) and (3) include industry and year fixed effects and Columns (2) and (4) include a time trend variable rather than year fixed effects to capture trends in scope and comment letter issuance. I find that full scope reviews are 76 percent less likely after the hiring freeze, and this lower likelihood is mitigated (i.e., greater) in branch-years with a lower workload per employee. This result confirms that the hiring freeze impacted scope assignment, a first stage for my identification strategy (Atanasov and Black 2016). The SEC still will likely continue to assign the riskiest filings as full scope reviews, but for some range of firm characteristics, the variation is plausibly exogenous.

I present results using comment letter receipt (CL_{it}) as the dependent variable in Columns (3) and (4). The SEC is 51 percent less likely to issue a comment letter during the hiring freeze, even after taking the time trend of decreasing comment letters into account. The reduction in comment letters is mitigated in branches with a lower workload per employee, consistent with the assumptions underlying my identification strategy. The SEC also focuses its limited resources on particular types of firms. For example, firms with material weaknesses, high market capitalization, greater political contributions to SEC oversight committees in Congress⁴, or lower financial statement readability (measured by the Gunning Fog index) are more likely to receive a comment letter after the hiring freeze.

<Table 3>

⁴ I thank Reilly Steel for providing information on political contributions as used in Steel (2024).

Main Analysis – Financial Reporting Error Detection

For my main analysis, I exploit the variation in scope generated by the hiring freeze to determine the effect of government-imposed resource constraints on the SEC’s resource allocation between review types with respect to its monitoring role in detecting financial reporting errors. First, I test if the SEC’s unconditional propensity to detect financial reporting errors changes during the hiring freeze for comment letter i in industry j in year t using the equation as follows:

$$ErrorCaught_{it} = \beta_0 + \beta_1 \mathbf{Hiring_Freeze}_t + \text{Controls} + \text{Industry FE} + \text{Year FE} + \varepsilon_{it} \quad (2)$$

Then, for my primary analysis, I use a difference-in-differences design summarized below:

$$ErrorCaught_{it} = \beta_0 + \beta_1 \mathbf{Hiring_Freeze}_t + \beta_2 \mathbf{Full_Scope}_{it} + \beta_3 \mathbf{Full_Scope}_{it} \times \mathbf{Hiring_Freeze}_t + \text{Controls} + \text{Industry FE} + \text{Year FE} + \varepsilon_{it} \quad (3)$$

The coefficient of interest, β_3 , represents the incremental change in the proportion of errors the SEC detects in full scope reviews as compared to limited scope reviews around the hiring freeze. $ErrorCaught_{it}$ is an indicator equal to one if the SEC detects a financial reporting error during the filing review in a sample of filings that received a comment letter and are later restated (Kubic 2021). Since all filings in my sample contained an error and are reviewed by the SEC, the only variation is if this error is detected by the SEC or not. This avoids bias from assuming all financial statements that are not restated are error-free. I code restatements as detected by the SEC if a restatement is announced during or within 135 days of an SEC review and the restatement topic matches a comment topic, consistent with Kubic (2021). I also manually read restatement announcements and code restatements as detected by the SEC if the company discloses that an SEC comment letter initiated the

discovery of the error triggering the restatement.

I control for factors discussed above in Eq. (1). Specifically, I include an indicator for calendar-year end filings, market capitalization, a loss indicator, bankruptcy rank, sales growth, a merger indicator, a Big 4 audit firm indicator, an auditor change indicator, the log of auditor tenure, the log of age, a high stock volatility indicator, the Gunning fog index, and the proportion of litigious words in the firm's filing. I do not control for employee characteristics because team members are assigned based upon scope. I also use industry (SIC2) and year fixed effects. While the fixed effects absorb time-invariant industry, time-invariant branch characteristics (since filings are assigned to branches based upon SIC2 industry codes), and year-specific shocks, I also check robustness to different fixed effect structures and matching in Section V.

I present my results in Table 4. First, I find no evidence in columns (1) and (2) that the propensity to detect errors in general (regardless of scope) declines during the hiring freeze. In columns (3) and (4), I find that the SEC's propensity to identify financial reporting errors is 13–16 percent greater in full scope reviews than limited scope reviews after the hiring freeze. In terms of economic significance, this is comparable to the impact of avoiding a state-sponsored terrorism review and twice that of adding an accountant to the review team (Hills et al. 2021; Kubic 2021)⁵. In Figure 4, I graph an event study

⁵ I compare to estimates in the known error subsamples of Hills et al. (2021) and Kubic (2021) from Table 3, Panel A, Column 3 of -14.7% and Table 7, Column 2 of 8.2%, respectively. While these papers use branch-year fixed effects, the magnitudes in Table 4 are comparable to my estimate with branch-year fixed effects of 14% (Table IA.6 Column 3 less Column 2). When I add state-sponsored terrorism review and accountant team members as control variables in my analysis, my results increase in significance and the magnitude increases, but I do not report these results as team assignment is made after scope decisions.

specification. The graph shows the effect is driven by an increase in the propensity to identify errors in full scope reviews, not a deterioration in performance for limited scope reviews. In column (5), I estimate results with a Heckman correction, where the model presented in Table 3, Column (1) is used as the first stage and the model in Table 4, column (4) is used as the second stage. This procedure estimates an inverse Mills ratio in the first stage, which I include as a covariate in the second stage to control for observable and unobservable determinants that influence the SEC's review scope decision. Using this two-stage approach has little impact on results. Together, the results reported in Panel A suggest an improvement in resource allocation between full and limited scope reviews, rather than an unconditional improvement in the SEC's ability to detect errors. The SEC moves reviews that would have previously been assigned full scope to limited scope after the hiring freeze, but still detects a similar number of errors. The SEC's propensity to identify errors in full scope reviews increases because the total number of full scope reviews decreases, leading to a higher ratio of full scope reviews with errors identified to total full scope reviews.

<Table 4, Panel A>

<Figure 4>

I also document how the SEC budget is allocated amongst its divisions in Table IA.1. I assume that SEC leadership would cut resources the most from the division that it believed could most easily compensate while still achieving its mission. Consistent with my findings, the greatest reduction is to Corp Fin, implying that SEC leadership expects negative effects from the budget cuts to be minimized in this division.

Figure 4 also depicts trends before the hiring freeze for full and limited scope reviews, supporting the parallel trends assumption inherent in a differences-in-differences design. The effect takes until 2019 to develop, likely due to the time it takes for existing staff to depart and additional resource constraints imposed by a 2019 government shutdown. Table IA.2 shows that over two times as many employees leave in 2018 than in 2017, supporting this interpretation. The average tenure for a staff member who leaves is close to the average tenure of the entire staff, indicating that the main results are not driven by a workforce of more experienced staffers. Confidence intervals are wider in recent years due to a decrease in both the number of comment letters issued by the SEC and restatements issued by firms.

I argue that the hiring freeze provides a shock to the scope assignment process such that I can compare filings with similar ex-ante assessed levels of risk that are assigned a different scope. However, some endogenous variation is still included because scope is still partially determined by the firm's level of suspected complexity and noncompliance. The most likely selection threat is that assignment to a full scope review is positively correlated with some unobservable aspect of riskiness. However, the direction of this bias would attenuate my result⁶. I also estimate results in alternative samples in the next section, and with an instrumental variable design in Section V, which focuses on the most exogenous variation.

⁶ In this case, I would expect to find an increase in the error detection rate of limited scope reviews, since filings pushed from a full scope into a limited scope review due to the hiring freeze would have a higher base-error rate and filings that are pushed into no review would have a lower base-error rate. In contrast, I find an increase in error detection in full scope reviews, and no change in limited scope reviews.

Alternative Samples

In my main analysis, I use a sample of filings that receive a comment letter and are later restated because both the SEC review and financial reporting error are observable, reducing measurement error. However, it is possible that the SEC reviews few filings that contain errors or performs poorly on filings they review without issuing a comment letter. To understand these groups, I analyze the probability of error detection in all filings using a bivariate probit model, the probability of restatement in firms with a public float over \$700 million, that are generally reviewed every year, and the probability of error detection in a sample of all restatements (Gunny and Hermis 2020).

The bivariate probit analysis simultaneously models the probability that an error exists within a firm's financial statements and the SEC's propensity to detect the error (conditional on its existence), mitigating bias from assuming the two processes are unrelated. It allows me to use a sample of all financial filings with available control variables. However, it can accommodate fewer control variables than an OLS regression and assumes that I can accurately model the two processes with distinct, observable determinants (Wang 2013; Gunny and Hermis 2020). For more details, see the Internet Appendix, Section II. I estimate this model and present findings in Table 4, Panel B. When all covariates are set to their mean values, the results correspond to a 22% increase in the SEC's propensity to detect financial reporting errors in full scope reviews after the hiring freeze, holding constant the probability of an error's existence. Therefore, this analysis supports the findings and economic magnitudes in Panel A.

<Table 4, Panel B>

Next, I estimate Eq. (3) using an indicator for restatement as the dependent variable and an indicator for firms that have a public float over \$700 million but did not receive a comment letter as the explanatory variable of interest. This approach determines if filings that are reviewed but do not receive a comment letter are more likely to be restated during the hiring freeze, mitigating concerns that SEC performance differs in these filings as compared to those that do receive a comment letter. In Table 4, Panel C, I find that large firms that are likely reviewed but do not receive a comment letter have a lower probability of restatement after the hiring freeze as compared to the full sample of filings, and no difference in comparison to other large firms.

<Table 4, Panel C>

Finally, I analyze all filings that are restated during my sample period, regardless of whether the SEC reviewed the filing. In Panel D, I estimate Eq. (2) using *Hiring_Freeze_{it}* as the explanatory variable of interest. I cannot include *Full_Scope_{it}* because this variable does not exist for filings that are not reviewed by the SEC. I find that the SEC review process detects 6% fewer misstatements during the hiring freeze. Taken together, the results in Table 4, Panels A–D imply that the SEC maintains their ability to detect financial reporting errors in filings they review, but under resource constraints, they review fewer filings and therefore detect a lower percentage of the total population of restatements. However, the goal of the filing review process is to monitor disclosures rather than audit the entire population of filings and the SEC makes a strategic choice on which firms to prioritize, for example, large firms with a greater potential to affect capital markets.

<Table 4, Panel D>

Mechanism*Comment Letter Topics*

To provide insight into how the SEC maintains its ability to detect financial reporting errors in the filings they review, I examine topics and textual characteristics of comments. First, I investigate if the hiring freeze is associated with a shift among the major topics of comment letters: accounting, MD&A, internal control, risk factors, regulation, non-GAAP measures, and other. Former SEC Chair Mary Jo White has noted that special interest groups can influence the SEC to require disclosures that do not fit with the SEC's core mission (White 2013). It is possible that SEC staff are directed to shift their focus from certain topics back to priority areas consistent with the SEC's core mission following budget cuts. In Table 5, I re-estimate Eq. (3) using the existence of a comment in each topic as the dependent variable. I find that firms are 9 percent more likely to receive an accounting comment on full scope reviews after the hiring freeze. They are also less likely to receive a comment on the MD&A, risk factor disclosures, and other topics.

<Table 5>

The negative association between limited scope reviews and risk factor disclosure comments points to one cost of limited scope reviews: the loss of spillover benefits for forgone comments. Brown, Tian, and Tucker (2018) find that firms who do not receive a comment letter modify their subsequent disclosures to a greater extent if the SEC has commented on the risk factor disclosure of industry leaders or peers. Since limited scope reviews produce fewer comments related to risk factor disclosures, they are likely to result in decreased spillover benefits.

In Table IA.3, I examine the detail behind the accounting comment result by substituting indicators for subtypes of accounting comments as dependent variables. I find that after the hiring freeze, full scope reviews have significantly more comments for most accounting subtopics (e.g., acquisitions, tax) but fewer compensation-related comments. This rules out concerns that results are driven by revenue and leasing restatements related to accounting standard changes during the sample period. For more about the accounting standard changes, see Section V.

Textual Characteristics of Comment Letters

Second, I estimate Eq. (3) for comment letter i in industry j in year t using three different textual analysis-based comment characteristics as my dependent variables. I use two measures from prior literature and construct one new measure. The two measures from prior literature are *DeficientAreas_{it}* and *DiscChanges_{it}*, which represent comments on deficient areas that prompt long firm responses and comments that ask firms to change their disclosures, respectively (Kubic and Toyne 2023). The new measure I construct, *RecogQs_{it}*, seeks to capture the number of SEC questions that focus on accounting recognition topics rather than purely disclosure. For more details on this measure, see the Internet Appendix, Section VII. I also create indicator variables for comment letters whose percentages of these measures are in the top quartile.

I present results in Table 6. I use Poisson pseudo-maximum likelihood regressions on count variables rather than OLS because OLS can bias results on count variables in finance settings (Cohn, Liu, and Wardlaw 2022). I find that full scope reviews are associated with 11 percent more comments that prompt long firm responses after the hiring

freeze as compared to limited scope reviews. Additionally, while the number of questions about recognition topics does not change, the proportion of full scope reviews with a high percentage of recognition questions increases by 7 percent. In contrast, both the number and the percentage of comments that ask for disclosure revisions do not significantly change. This indicates that the SEC focused more on recognition than disclosure in full scope reviews after the hiring freeze without decreasing the number of actual disclosure revisions that firms make.

<Table 6>

For comparison of economic magnitudes, Ege et al. (2020) shows that comment letters issued while Corp Fin is busy reviewing IPOs and mergers are associated with a 3 percent decrease in the probability of a firm amending a disclosure. Kubic and Toyne (2023) finds that having the exact same SEC review team as a prior review is associated with 6 percent fewer deficient areas and 5 percent fewer disclosure changes as compared to a completely new team of staff.

Finally, I combine Corp Fin employee data obtained by FOIA requests with public salary data from www.federalpay.org to descriptively investigate the characteristics of staff who leave Corp Fin in Table IA.2. There is significant turnover before and after the hiring freeze. Accountants and lawyers leave in similar proportions, but individuals who leave after the hiring freeze have a higher salary and years of experience on average. In addition, in Table IA.4, I find that results do not significantly differ between material restatements announced on 8-Ks and other restatements. Taken together, the mechanism analyses suggest that a more focused selection of comment topics enable the SEC to absorb budget

cuts without sacrificing its monitoring role in identifying accounting deficiencies in financial filings.

V. ADDITIONAL ANALYSES

So far, I have investigated one possible consequence of the SEC budget cuts to the filing review process, accounting error detection. Next, I consider if the hiring freeze had other effects on the SEC's performance, firm responses, or market dynamics.

Financial Reporting Changes

One potential cost of SEC resource constraints is a reduced ability for staff to react to changes in the financial reporting environment. To understand this possibility, I examine comments that reference major accounting standard updates that became effective during the hiring freeze. Then, I compare the SEC's oversight of additional tax disclosures prompted by FIN 48⁷ (issued before the freeze) and the Tax Cuts and Jobs Act of 2017 ("TCJA")⁸. Tax disclosure is a useful setting to study staff shortages because it is a complex accounting topic that requires expertise (e.g., Graham, Ready, and Shackelford 2012). For example, tax issues make up a significant percentage of critical audit matters and restatements and Corp Fin is the least likely to detect tax errors out of major financial statement topics (Drake, Goldman, Lusch and Schmidt 2024; Kubic 2021). Both FIN 48 and TCJA required extensive managerial judgment and additional disclosure within the tax footnote (e.g., Lisowsky, Robinson, and Schmidt 2013; Gleason and Thomson 2023; Fischer 2023)⁹. Concurrent research also suggests that the SEC was more likely to target

⁷ FIN 48 (codified as ASC 740-10) standardizes the recognition, measurement, and disclosure of tax reserves in financial statements and became effective for fiscal years beginning after December 15, 2006.

⁸ The TCJA was a major overhaul for U.S. individual and corporate income taxation on a scale not seen since 1986. The primary corporate changes include a decrease in the statutory tax rate from 35% to 21% and a change in the international tax regime from a worldwide to a hybrid territorial model (Fischer 2023).

⁹ Although FIN 48 is a FASB pronouncement and the TCJA is a tax law passed in Congress, the TCJA

tax aggressive firms after the enactment of FIN 48 (Shu, Yost, Yu, and Zheng 2024). I expect that Corp Fin faced more resource constraints in the period immediately following the TCJA than FIN 48, leading to a more robust oversight response to FIN 48 than to the TCJA, for at least two reasons. First, Corp Fin had fewer employees in the post-TCJA period due to the hiring freeze. Second, ASC 606, a major revenue recognition standard, became effective in fiscal years beginning in 2018 and captured SEC focus in reviews (Black et al. 2021). Additionally, a major leasing standard, ASC 842, became effective in 2019.

First, I graph comments related to revenue and leasing in Figure 5. In contrast to trends in other accounting topics during the period, comments on revenue and leasing spike around the implementation of their related accounting standards, suggesting that the SEC monitors firms' application of the new standards. Next, I perform regression analyses that compare the likelihood of receiving a tax or revenue comment in the 3 years before and after FIN 48 and TCJA are required to be incorporated into financial statements. Descriptively, I note that the SEC issues 144 comments specifically related to FIN 48 in the years following adoption, as compared to only 23 comments specific to the TCJA. I present results in Table 7. I find that firms are 5 percent less likely to receive a tax comment after the TCJA as compared to no significant change after FIN 48, controlling for review characteristics and firm fixed effects. However, firms are more likely to receive revenue comments in the post-TCJA period, consistent with SEC staff focusing on revenue

had many material financial reporting implications such as the revaluation of deferred taxes, estimation of transition tax, and increased narrative tax disclosure. It also required direct intervention of the SEC through the issuance of Staff Accounting Bulletin No. 118 (Fischer 2023).

recognition at the expense of other financial reporting shocks while resource constrained. This analysis indicates that the SEC shifts their limited resources to consider major accounting standard changes after the hiring freeze but does not give the same consideration to all changes in the financial reporting environment.

<Figure 5>

<Table 7>

Timeliness

Another aspect of SEC performance is review timeliness, as delays may reduce the quality of a firm's information environment by delaying when enhanced disclosures reach market participants (Gunny and Hermis 2020). To determine the effect of the hiring freeze on comment letter timeliness, I replace *Error_Caught_{it}* in Eq. (3) with *ConTimeSpan_{it}*, *Rounds_{it}*, and *DaystoProcess_{it}*, which measure the total duration in days from the first letter sent by the SEC to the last letter, the number of back-and-forth replies between the SEC and issuing firm, and the number of days between a firm's financial statement filing date to the initial comment letter, respectively. Then, I estimate Eq. (3) on the comment letter sample using a Poisson pseudo-maximum likelihood approach. I present results in Table 8. I find that comment letter conversations have more days between filing and comment letter issuance but a shorter time span and fewer rounds between the firm and the SEC during the hiring freeze. I find no evidence that full scope reviews are slower than limited scope reviews, but they have a higher average number of rounds. However, this effect is mitigated during the hiring freeze. Overall, this analysis suggests

that the hiring freeze decreased the initial timeliness of comment letter correspondence but shortened the conversations.

<Table 8>

Firm Responses

If firms perceive a decrease in financial statement monitoring, they may change their financial reporting behavior (e.g., Becker 1968; Kedia and Rajgopal 2011). To investigate firm responses to SEC constraints, I replace the dependent variable in Eq. (3) with an indicator for restated financial statements and use a specification similar to Cunningham, Johnson, Johnson, and Lisic (2020) for earnings management variables and related control variables. I replace the explanatory variable of interest with an indicator for large firms whose filings were likely reviewed in the previous year but did not receive a comment letter. Firms that do not receive comment letters may determine that SEC financial statement oversight has decreased due to resource constraints. I use large firms only in my sample because they may pay more attention to SEC dynamics and provide a better control group. In Table 9, I find that large firms who do not receive comment letters during the hiring freeze increase their accrual and total earnings management in the following year. In untabulated event study graphs, I determine that the effect is a combination of both groups. Firms without comment letters increase earnings management while firms who receive comment letters decrease earnings management. Additionally, the behavior changes beginning in 2017, consistent with the hiring freeze period. This suggests that firms adjust their financial reporting behavior based on perceptions of SEC oversight.

<Table 9>

Market Consequences

Next, I investigate if the hiring freeze results in more information asymmetry or less information available to investors. Prior literature finds that comment letters reduce bid-ask spreads, but unexpected resource constraints diminish the quality of comment letters and their impact on information asymmetry (Johnston and Petacchi 2017; Ege et al. 2020). To determine if the hiring freeze impacts liquidity, I examine the average daily percent bid-ask spread for the three-month period following a firm's comment letter closing date (BAS_{it}) and the difference between the average bid-ask spread for the three-month period following the comment letter closing date less the average bid-ask spread for the same period a year before ($ABAS_{it}$) in a specification similar to Ege et al. (2020). I present results in Table 10.

I find that comment letters issued during the hiring freeze are associated with an increased bid-ask spread of 8 basis points in the three months following their resolution as compared to comment letters issued before the hiring freeze, equivalent to an average annual cost to traders of around \$9.2 million¹⁰. In terms of economic significance, the increase in bid-ask spreads is similar to when Corp Fin is busy reviewing a high volume of IPOs and mergers (Ege et al. 2020). However, the effect is small in comparison to other forces that change information symmetry¹¹. This is corroborated by Johnston and Petacchi (2017), who note that the liquidity benefit of comment letters is modest, possibly because

¹⁰ I estimate the average cost to traders by taking β_1 as estimated from Table 9, column 1, then multiplying by the average monthly volume and price per share in my sample. I multiply by 12 to annualize my estimate of the average cost to traders (Chen, Hepfer, Quinn, and Wilson 2018).

¹¹ For example, Chen et al. (2018) find that tax-motivated income shifting is associated with a 25-40 basis point increase in bid-ask spreads.

the information environment for US firms is already robust.

<Table 10>

Second, I analyze if the changes to the filing process result in less information to market participants. The hiring freeze is correlated with fewer comments in general, as well as fewer comments associated with high oversight (i.e., *DeficientAreas_{it}*, *DiscChanges_{it}*, and *RecognQ_{it}*). It is possible that these attributes are informative about the firm's financial reporting function. If that is the case, the hiring freeze would indirectly reduce information available to market participants.

A large body of literature confirms that the market reacts negatively to restatements, including those initiated by the SEC (Palmrose et al. 2004; Kravet and Shevlin 2010). However, it is less clear how the market responds to other comment letters (Cunningham and Leidner 2022). For example, Dechow, Lawrence, and Ryans (2016) finds a market reaction for revenue comment letters with abnormal insider trading in a sample of comment letters from 2006–2012, but no market reaction in the broad population of comment letters. One explanation is that investors view the receipt of the average comment letter as a routine event (Geiger, Johnson, Jones, and Kumas 2022). Additionally, there is a time lag between the company's receipt of the letter and public disclosure on EDGAR, introducing the possibility for information leakage. Supporting this phenomenon, Geiger et al. (2022) finds evidence consistent with mutual funds trading after the firm receives certain comment letters, but before the public disclosure date. Finally, Ege et al. (2020) show that abnormal bid-ask spreads increase and earnings response coefficients are lower in the quarter after comment letter resolution for periodic reviews conducted in abnormally high transaction

filing periods as compared to abnormally low periods.

I expect that the market will evaluate comment letters with an extremely high number of deficient areas or disclosure changes as a negative indicator of the firm's financial reporting practices, resulting in negative abnormal returns around the comment letter release date. To test this, I create indicator variables for the top decile of *DeficientAreas_{it}*, *DisclosureChanges_{it}*, and *RecognQs_{it}*, and regress the 3-day market-adjusted CAR around the public disclosure date of the comment letter on the top decile variable and Fama-French 3 factor and momentum controls, mirroring the design in Edwards et al. (2018).

I find no evidence that disclosure of comment letters with high financial oversight measures is associated with negative abnormal returns on average in my sample, even when controlling for characteristics that indicate a potential for financial leakage (untabulated). Interestingly, I find an association between these variables in comment letters issued in 2005–2010, consistent with recent commentary that the only studies that find market reactions to comment letter disclosures use the first years after the SEC began publicly disclosing them (Johnston 2024). These results highlight that the capital market impact for most filing reviews is small in comparison to filing reviews that identify a restatement. This supports my focus on financial reporting errors that prompt restatements in my main analyses, as the market finds restatements much more informative than comment letters with even extreme values of other comment letter oversight measures.

Overall, my analyses on the effect of the hiring freeze on SEC performance, firm responses, and market reactions suggest that there are tradeoffs to government-imposed

resource constraints. While the SEC maintains accounting error detection in filings they review, the changes to the filing review process also result in less deterrence of earnings management in public firms and fewer transparency-enhancing disclosures to the market.

Division of Enforcement

While my primary analyses focus on financial reporting monitoring through the SEC's Division of Corporation Finance because they are the most affected by budget cuts, government-imposed resource constraints may also affect the SEC's Division of Enforcement ("DoE"). To better understand these effects, I obtain data on SEC investigations and enforcement actions¹² from Steel (2024) to descriptively depict how the SEC's enforcement activities change throughout time. In Figure 6, I graph the number of investigations opened, number of investigations closed, number of enforcement actions, and aggregate monetary sanctions issued by the DoE over the sample period. These graphs show that the number of investigations opened decreases during the hiring freeze period while the number of investigations closed remains about the same. The number of enforcement actions also declines in 2017 but returns to previous levels for the rest of the period. Finally, the DoE collects lower monetary sanctions from 2017–2019. These trends suggest that the DoE is also impacted by the hiring freeze. However, I caveat that results for Corp Fin monitoring do not necessarily generalize to DoE activities, and vice versa, because each SEC division operates separately with its own budget and objectives. For example, Bonsall et al. (2024) investigates how the backlog of investigations at a regional

¹² This dataset includes information provided by Daniel Taylor on closed SEC investigations between January 1, 2000, and August 2, 2017, from Blackburne, Kepler, Quinn, and Taylor (2021) and was extended by Reilly Steel through additional records obtained through FOIA requests to the SEC.

office-level affects SEC enforcement, while holding the level of resources constant. They find that investigation backlogs are associated with lower monetary penalties, a lower likelihood of investigating restating firms, and a lower likelihood of pursuing cases with large shareholder losses. They conclude that the DoE focuses on less severe restatement cases when busy, in contrast to Corp Fin, which focuses on worse cases of noncompliance (Gunny and Hermis 2020). Similarly, Heese et al. (2017) finds that politically connected firms are positively associated with comment letter reviews, while Correia (2014) documents that these firms are less likely to be the subject of enforcement actions.

<Figure 6>

In addition to SEC regulation at the national level, each US state has state-level securities regulators, which primarily focus on enforcement of fraud cases and do not have disclosure review programs (NASAA 2011). While there are many differences between the state-level agencies and the SEC, the budgets for state regulators are less influenced by national-level political factors. As a result, the time trends in enforcement of state regulatory agencies may provide a useful benchmark for the DoE results and help describe the overall US securities regulatory environment during my sample period. In Table IA.5, I present a table of aggregated US state enforcement statistics and graphics of the same information. I begin in 2012 due to the availability of NASAA¹³ enforcement reports. There appears to be slight increases in investigations and enforcement actions over time, but no clear trends in aggregate monetary sanctions. This suggests that in the absence of

¹³ NASAA stands for North American Securities Administrators Association. It represents state and provincial securities regulators in the United States, Canada, and Mexico and publishes annual aggregate US state enforcement statistics.

government-imposed resource constraints, SEC DoE investigations may have remained at the higher level that they were before the budget cuts.

Other Regulatory Agencies

I focus my analysis on the SEC as the primary regulator of US public financial statement quality. However, other US regulatory agencies also indirectly monitor firm financial statements and influence firm behavior. For example, Hanlon, Hoopes, and Shroff (2014) finds that higher tax enforcement by the IRS is associated with financial reporting quality, and that this relation is strengthened when other sources of monitoring are weaker. It is possible that other agencies' budgets increase while the SEC's budget decreases, which could lead other agencies to increase their monitoring activities. To better understand these dynamics across regulatory agencies, I collect the annual budgets and full-time employee equivalents of the Public Company Accounting Oversight Board, Commodity Futures Trading Commission, Federal Trade Commission, IRS, and the Environmental Protection Agency from 2008–2022. I choose these agencies because either they have similar missions to the SEC or prior research suggests they act as monitors of financial information (e.g., Hanlon et al. 2014; Johnson, Lisic, Moon, and Wang 2023; Li and Wang 2024). I present this information in Table IA.6. I note that the other agencies also incur budget cuts or staff reductions in 2017–2019. This suggests that a substitution of financial statement monitoring from the SEC to another US regulatory agency is unlikely to explain my results.

My research design uses limited scope reviews as a counterfactual for full scope reviews. However, it is possible that the SEC's propensity to detect financial reporting errors in limited scope reviews is also affected by budget cuts. Another potential control

group are reviews of Canadian firms, because Canadian securities regulators are not subject to the same resource constraints. I do not use these reviews in my main design because Canadian securities regulation and the firms that register there differ from the US. Additionally, Canadian securities regulators only publish aggregate statistics. However, time trends in the Canadian continuous disclosure review program could be informative as to time trends for US filing reviews in the absence of budget cuts. In Table IA.7, I present Canadian disclosure review statistics during the sample period and graphs of the same information from annual Canadian Securities Administrators¹⁴ staff notices. The number of reviews decreases over time, similar to the decreasing trend of comment letters issued in the US. The percentage of reviews limited in scope does not exhibit a clear pattern but remains at a high level throughout the period. The percent of reviews referred to enforcement increases beginning in 2013. I do not observe clear trends in the outcomes of the reviews related to my study: refiling (i.e., restatement), prospective changes, and no action required. This supports my research design because it does not indicate there are other time-based factors that would have increased the number of filing reviews, changed the percentage of limited scope reviews performed, or the level of restatements.

Alternative Political Explanations

Time-varying factors that are correlated with review scope, affect financial reporting oversight, and change within-industry at the same time as the hiring freeze threaten the validity of my research design. One alternative explanation for my results is

¹⁴ The Canadian Securities Administrators represent and coordinate services among the provincial securities regulators in Canada. Canada does not have a national securities regulator analogous to the SEC.

that Republican presidential administrations are associated with more efficient SEC administrations, rather than a resource constrained environment. To rule out this alternative explanation, I replace *Hiring_Freeze_{it}* with an indicator for years with a Republican presidential Administration (*Repub_{it}*) and re-estimate Eq. (3) with a sample from 2005–2020. In Table IA.8, I do not find evidence that the SEC has a higher propensity to identify financial reporting errors with full scope reviews during Republican administrations.

Another potential concern is that a firm’s connection with a political party or political alignment with the President affects review outcomes. To mitigate this concern, I rerun analyses by replacing *Full_Scope_{it}* with variables that represent firm alignment and political party. I measure firm alignment as a ratio of contributions from firm political action committees and employees over total contributions and compare that ratio to the party to the SEC Chair, consistent with Steel (2024). *Dem_Firm_{it}* is an indicator variable for firms who donate more than half of their contributions to the Democratic party. Then, I re-estimate Eq. (3) using *ErrorCaught_{it}* and an indicator for restatement as the outcome variables. In untabulated results, I find that neither firm alignment nor political party is associated with the likelihood of restatement or the propensity of the SEC to detect financial reporting errors.

Another alternative explanation is that some unique factor related to President Trump’s administration influenced the SEC. To these concerns, I note that the fiscal year 2017 SEC budget request to Congress was made in February 2016, prior to President Trump’s election. Additionally, Jay Clayton, the SEC Chairman during the Trump administration, is a political independent and was regarded as relatively moderate for a

Republican nominee (Kiernan and Michaels 2020). Finally, a roughly one-month US government shutdown from December 2018–January 2019 and the beginning of the COVID-19 pandemic are within my sample period (Bens, Cassar, Huang, and Keusch 2024). I view these events as exacerbating the SEC’s already existing resource constraints rather than invalidating my results.

Alternative Explanations – Oster Test

A final alternative explanation is some other time-varying omitted variable that varies within-industry biases my results. One method to estimate the potential effect of an omitted variable on regression results is explained in Oster (2019). Oster’s technique compares the coefficient of interest and R^2 from regressions with and without observable control variables. It is possible to calculate a bias-adjusted coefficient with an assumption about the importance of observable variables relative to unobservable variables (δ) and an assumption about the explanatory power of a regression that contains both observable and unobservable variables (R^2_{\max}). Following Oster (2019) and Hills et al. (2021), I assume that observable and unobservable variables are of equal importance ($\delta = 1$) and that the inclusion of omitted unobservable variables would result in a R^2_{\max} equal to 1.3 times the R^2 of the regression with control variables. I find a bias-adjusted coefficient of 0.15, which is within the range of results in Table 4, Panel A and a δ that indicates unobservable factors would need to be 2.7 times more influential than observable factors to nullify my results (i.e., to render a bias-adjusted coefficient of 0). I am not aware of an omitted factor of that magnitude, especially one that would be compatible with the alternative branch-year and firm fixed effect specifications below.

Other Robustness Tests (Matching and Specification Changes)

I perform several other robustness tests to evaluate the sensitivity of my results. First, I try matching approaches and present findings in Table IA.9. I find significant results using propensity score matching with a caliper of 0.3 and no replacement. I also use entropy balancing up to the third moment with all control variables and check statistics suggested by McMullin and Schonberger (2022). I find similar results with entropy balancing, but the p-value increases to slightly above conventional statistical significance ($p = 0.102$). I note that control observations do not exhibit extreme observational weights. The analysis weights limited scope observations with a mean of 1.28 and a maximum of 7.88¹⁵.

Next, I consider alternative specifications. I do not use branch-year fixed effects in my main specification because they are collinear with the hiring freeze. However, to ensure that branch-year characteristics such as branch-level budget allocations do not affect my findings, I estimate Eq. (3) with branch-year fixed effects but without the hiring freeze indicator and present results in Table IA.10. Consistent with the main findings, I show that full scope reviews are associated with a greater propensity to identify financial reporting errors, driven by the hiring freeze period.

I also do not use firm fixed effects in my main analyses because few firms appear in my reviewed and restated sample multiple times. However, if Corp Fin selects scope based on unobservable time-invariant firm characteristics, this could bias my findings. To investigate this possibility, I construct a placebo test using reviews where the immediate

¹⁵ For comparison, the maximum weight in the illustrative example with extreme weights in McMullin and Schonberger (2022) is 434.81.

past comment letter the firm received was limited in scope. If Corp Fin selects scope based on unobservable time-invariant firm characteristics and these characteristics bias my findings, then I should find results in this specification. I find no significant associations (untabulated), indicating that my results are not driven by firm-specific characteristics.

While I focus on a difference-in-differences design, the hiring freeze could also be interpreted as an instrument on limited scope reviews. An instrumental variable design estimates the effect on “compliers” (i.e., reviews that would have been assigned full scope before the hiring freeze but are forced to limited scope due to the employee shortage), the exogenous part of the variation in my setting. However, this approach assumes that conditional on covariates, the hiring freeze impacts error detection only through its effect on the scope selection process, which may be violated if the SEC makes unobservable changes. Nevertheless, I estimate the effect of reviews that were pushed to limited scope due to resource constraints using two-stage least squares and present results in Table IA.11. I find no evidence of a relationship between limited scope reviews and financial reporting errors detected by the SEC, consistent with the main results in Figure 4¹⁶.

Finally, I check alternative proxies for key variables. First, I consider an alternative definition for limited scope (untabulated). Hills et al. (2021) considers a comment letter as limited scope if it both states it is limited in the text and if the review team did not include

¹⁶ I perform a Montiel Olea-Pflueger weak instrument test that is robust to heteroskedasticity, serial correlation, and clustering. (Montiel Olea and Pflueger 2013). This procedure approximates the TSLS bias and compares it to a worst-case benchmark where the instrument is completely uninformative (i.e., similar to the bias under OLS). In columns (1) and (2), I find that the TSLS estimator’s bias is less than 10 and 20 percent of the worst-case benchmark, respectively. This means that I can reject the null hypothesis that $Hiring_Freeze_i$ is a weak instrument when the definition of a weak instrument is an instrument that produces bias over 10 (20 percent) of the worst-case benchmark.

both a lawyer and an accountant. I re-estimate Eq. (2) using this definition and find results similar in magnitude and significant at the 5 percent level. I also try a logit specification and review team size as a more continuous proxy that varies the level of resources devoted to a particular filing review and find significant results.

VI. CONCLUSION

I examine the effect of a recent hiring freeze on the SEC's financial reporting oversight using the filing review process. I show that the SEC improves resource allocation between full and limited scope reviews with respect to error detection by focusing on accounting recognition questions. However, while the SEC maintains error detection performance in the filings they review, they detect a lower proportion of the total restatements filed during the hiring freeze because they review fewer filings. The changes to the filing review process also result in less deterrence of earnings management and fewer transparency-enhancing disclosures to the market.

My paper contributes to the literature on regulatory agencies and disclosure regulation. My incremental contribution is considering if government-imposed resource constraints can lead to improvements in resource allocation, responding to the call to study efficiency and politics in the filing review process (Cunningham and Leidner 2022). My results may help the SEC evaluate the effectiveness of filing review changes prompted by budget cuts and other administrative agencies evaluate the tradeoffs associated with operational changes required in a challenging funding environment.

Despite growing research to measure the costs and benefits of regulation (e.g., Ewens, Xiao, and Xu 2024), there are still substantial barriers to calculating the welfare impact of changes in financial regulatory policy (Leuz 2018). While I cannot quantify all potential factors, I briefly summarize to clarify the conclusions that can be drawn from my study.

Congressional budget cuts to SEC funding directly benefit public firms due to the

SEC's fee structure after the passage of the Dodd-Frank Act of 2010 (Ekimoff and Wolfe 2024). Corp Fin's annual direct costs decreased by 10 percent from 2016 to 2019. The SEC's lower likelihood to issue a comment letter and lower complexity for letters that are issued also results in lower comment letter remediation costs for firms.

However, the changes in the filing review process also resulted in costs to investors through higher bid-ask spreads. Additionally, an important potential cost that I have not addressed is a reduction in any deterrence effect on misreporting from comment letters. There is little evidence of a deterrence effect to comment letters thus far¹⁷ (Johnston 2024). Theoretically, deterrence affects compliance through the probability of detection. Since the SEC detects a lower proportion of restatements during the hiring freeze, this theory would predict a decrease in the deterrence effect (Becker 1968). However, the filing review process is primarily for ex-ante monitoring. The SEC's monitoring goals may be able to be achieved through a smaller number of comment letters on large firms and separate releases from Corp Fin (e.g., Compliance and Disclosure Interpretations; Dear Issuer letters), while much of the deterrence provided by the SEC's activities may come from the Division of Enforcement (e.g., Bens et al. 2024; Wiedman and Zhu 2023). I show that enforcement activity decreases in the Division of Enforcement during the hiring freeze, but my analyses are descriptive in nature. I also do not quantify any changes in spillover disclosure effects or human capital consequences (Brown et al. 2018; GAO 2019).

¹⁷ A recent exception is Stice-Lawrence (2023). She finds that increases in SEC attention decrease the probability that firms have accounting irregularities, experience securities litigation, or receive SEC enforcement actions. Her measure of attention includes firm filing downloads from any part of the SEC, so it is possible that increased attention from filings reviews helps deter noncompliance.

While I cannot fully quantify the welfare impact or the distribution of any welfare changes, I provide an alternative perspective to recent academic work about regulatory agencies by considering if government-imposed resource constraints can motivate process improvements. I look forward to future research that provides insights into how government oversight affects regulatory institutions.

APPENDICES

Appendix A: Variable Definitions

Variable	Description	Source
Dependent Variables (alphabetical)		
<i>ABAS_{it}</i>	Abnormal bid-ask spread calculated as the average daily percent spread for the three-month period following the closing date of the comment letter less the average daily percent spread for the same three-month period one-year prior x 100. Daily percent spread is calculated as ((high offer price – low bid price)/midpoint) x 100.	CRSP
<i>BAS_{it}</i>	Bid-ask spread calculated as the average daily percent spread for the three-month period following the closing date of the comment letter x 100. Daily percent spread is calculated as ((high offer price – low bid price)/midpoint) x 100.	CRSP
<i>CAR_{,-1,1}</i>	Three day (-1,1) cumulative abnormal return around comment letter release dates. Normal returns are estimated over a 200-day window, ending 50 days before the event date, using the market model (i.e., regressing firm-level returns on returns from the market portfolio).	WRDS Daily Event Study
<i>CL_{it}</i>	An indicator equal to one if a filing received a comment letter.	AA
<i>ConTimeSpan_{it}</i>	The length in days of a comment letter conversation.	AA
<i>DaystoProcess_{it}</i>	The number of days between a firm's financial statement filing date and the date of the initial comment letter from the SEC.	AA
<i>DeficientAreas_{it}</i>	The number of comments to which the firm response is in the top quartile of length scaled by comment length as discussed in Kubic and Toynbee (2023).	AA, TA
<i>DiscChanges_{it}</i>	The number of comments in the SEC's first letter of review to which the firm responds by indicating that they will change a future disclosure, as discussed in Kubic and Toynbee (2023).	AA, TA
<i>ErrorCaught_{it}</i>	An indicator equal to one if a financial statement restatement was prompted by the comment letter process and caught by the SEC, as discussed in Kubic (2021).	AA
<i>HighDefPerc_{it}</i>	An indicator equal to one for comments letters in the top quartile of <i>DeficientAreas_{it}</i> .	AA, TA
<i>HighDiscChangePerc_{it}</i>	An indicator equal to one for comments letters in the top quartile of <i>DiscChanges_{it}</i> .	AA, TA
<i>HighRecogPerc_{it}</i>	An indicator equal to one for comments letters in the top quartile of <i>RecogQs_{it}</i> .	AA, TA
<i>Restatement_{it}</i>	An indicator variable if a filing is restated per Audit Analytics.	AA

<i>RecognQs_{it}</i>	The number of comments where the SEC asks an accounting or recognition related question, as explained in detail in the Internet Appendix.	AA, TA
<i>Rounds_{it}</i>	The number of letters from the SEC, representing the number of rounds from the first letter to the "no further comment" letter.	AA

Independent Variables of Interest

<i>Full_Scope_{it}</i>	Indicator for reviews that are not indicated as limited in scope by the text of the comment letters, using the following terms: "limited our review", "limited review", "review is limited", "review has been limited", "restricted solely to considerations of", "reviewed parts", and "targeted review". See Appendix B.	AA, TA
<i>Hiring_Freeze_{it}</i>	An indicator equal to one for comment letters filed beginning or after the hiring freeze is implemented in SEC fiscal year 2017.	AA
<i>LargeNoCL_{it}</i>	An indicator equal to one for filings issued by a large firm (public float over \$700M) who do not receive a comment letter.	AA
<i>Limited_Scope_{it}</i>	Comment letter specific indicator for reviews that are indicated as limited in scope by the text of the comment letters, using the following terms: "limited our review", "limited review", "review is limited", "review has been limited", "restricted solely to considerations of", "reviewed parts", and "targeted review".	AA, TA
<i>PostFin48_t</i>	Indicator for financial statements with balance sheet dates within 2007–2009.	C
<i>PostTCJA_t</i>	Indicator for financial statements within balance sheet dates within 2017–2019.	C
<i>Prior_Lim_{it}</i>	An indicator equal to one if the firm's immediate last comment letter was a limited review.	AA
<i>Repub_t</i>	An indicator equal to one for comment letters issued during Republican US Presidential administrations.	AA
<i>Severe_{it}</i>	An indicator equal to one for restatements with errors corrected via Form 8-K Item 4.02.	AA

Comment Letter Topics

<i>Acct_Comm_{it}</i>	An indicator variable if a comment letter includes any topic listed in Audit Analytics field <i>Iss_acrl_disc_keys</i> .	AA, TA
<i>MDA_Comm_{it}</i>	An indicator variable if a comment letter includes any topic listed in Audit Analytics field <i>iss_man_disc_text</i> .	AA, TA
<i>Risk_Comm_{it}</i>	An indicator variable if a comment letter includes any topic listed in Audit Analytics field <i>iss_riskfact_text</i> .	AA, TA
<i>Reg_Comm_{it}</i>	An indicator variable if a comment letter includes any topic listed in Audit Analytics field <i>iss_regstatem_text</i> .	AA, TA

<i>IC_Comm_{it}</i>	An indicator variable if a comment letter includes any topic listed in Audit Analytics field <i>iss_dcic_text</i> .	AA, TA
<i>Other_Comm_{it}</i>	An indicator variable if a comment letter includes any topic listed in Audit Analytics field <i>iss_othrdisc_text</i> other than non-GAAP comments (issue 813).	AA, TA
<i>NonGAAP_Comm_{it}</i>	An indicator variable if a comment letter includes topic 813 in the Audit Analytics field <i>iss_othrdisc_keys</i> .	AA, TA
<i>Rev_CL_{it}</i>	An indicator variable if a comment letter includes key number 176, 212, 816, or 935 in Audit Analytics field <i>Iss_accrl_disc_keys</i> .	AA, TA
<i>Exp_CL_{it}</i>	An indicator variable if a comment letter includes key number 190, 207, 192, 187, 292, 180 or 1016 in Audit Analytics field <i>Iss_accrl_disc_keys</i> .	AA, TA
<i>Comp_CL_{it}</i>	An indicator variable if a comment letter includes key number 187, 189, 188, or 206 in Audit Analytics field <i>Iss_accrl_disc_keys</i> , key number 927 in Audit Analytics field <i>Iss_othrdisc_keys</i> or key number 907 in Audit Analytics field <i>iss_man_disc_keys</i> .	AA, TA
<i>PIL_CL_{it}</i>	An indicator variable if a comment letter includes key number 207, 208, 935, 204, or 1012 in Audit Analytics field <i>Iss_accrl_disc_keys</i> or key number 261 in Audit Analytics field <i>Iss_man_disc_keys</i> .	AA, TA
<i>LAR_CL_{it}</i>	An indicator variable if a comment letter includes key number 205, 176, 283, 931, 203, 284, or 254 in Audit Analytics field <i>Iss_accrl_disc_keys</i> or key number 262 in Audit Analytics field <i>Iss_man_disc_keys</i> .	AA, TA
<i>Debt_Deriv_CL_{it}</i>	An indicator variable if a comment letter includes key number 185, 186, 935, 924, or 194 in Audit Analytics field <i>Iss_accrl_disc_keys</i> or key number 220 in Audit Analytics field <i>Iss_man_disc_keys</i> .	AA, TA
<i>CF_CL_{it}</i>	An indicator variable if a comment letter includes key number 181 or 176 in Audit Analytics field <i>Iss_accrl_disc_keys</i> or key number 1734 in Audit Analytics field <i>Iss_man_disc_keys</i> .	AA, TA
<i>Pres_CL_{it}</i>	An indicator variable if a comment letter includes key number 191, 179, 180, or 182 in Audit Analytics field <i>Iss_accrl_disc_keys</i> .	AA, TA
<i>Acq_CL_{it}</i>	An indicator variable if a comment letter includes key number 177, 178, or 935 in Audit Analytics field <i>Iss_accrl_disc_keys</i> , or key number 209 or 932 in Audit Analytics field <i>Iss_othrdisc_keys</i> .	AA, TA
<i>Consol_CL_{it}</i>	An indicator variable if a comment letter includes key number 183 in Audit Analytics field <i>Iss_accrl_disc_keys</i> .	AA, TA
<i>Tax_CL_{it}</i>	An indicator variable if a comment letter includes key number 214 or 897 in Audit Analytics field <i>Iss_accrl_disc_keys</i> .	AA, TA
<i>Other_CL_{it}</i>	An indicator variable if a comment letter includes key number 195, 196, 200, 201, 278, 183 or 184 in Audit Analytics field <i>Iss_accrl_disc_keys</i> , or key number 210 in Audit Analytics field <i>Iss_othrdisc_keys</i> .	AA, TA

Other Variables		
<i>Auditor_Change_{it}</i>	An indicator variable for firms who changed auditors in the fiscal year reviewed by the comment letter.	AA
<i>Bankruptcy_Rank_{it}</i>	The decile rank of the company's Altman Z-score. Z-score equals $1.2 \times ((ACT-LCT/AT) + 1.4 \times (RE/AT) + 3.3 \times ((PI_XINT/AT) + 0.6 \times ((CSO \times PRCC_F)/LT) + (SALE/AT)$.	C
<i>Betav_{it}</i>	Mean value of the systematic risk calculated using daily stock returns over the fiscal year of the year-end decile-ranked beta portfolio to which the firm is assigned, or BETA AV in CRSP.	CRSP
<i>Big4_{it}</i>	An indicator if a filing's auditor is a Big 4 audit firm.	AA
<i>Ees_Per_Review_{jt}</i>	Full-time employees within each office of SEC's Division of Corporation Finance in a year divided by the estimated number of filers in that year assigned to that office using the yearly industry composition per Compustat and estimated number of total filers per WRDS SEC Analytics. I estimate the percentage of filers reviewed in a year provided by public SEC budget justifications. I match Ees_Per_Review to comment letter observations based upon the branches that existed as of the year of the observation. To determine which legacy branch a comment letter-year observation would be assigned to in the past, I use the Internet Archive Wayback Machine (http://web.archive.org/) to find the SIC code to branch mapping provided on the SEC's website in past years (http://www.sec.gov/info/edgar/siccodes.htm).	FOIA, WRDS, C
<i>Fog_{it}</i>	The Gunning-Fox index of the firm's 10-K in the fiscal year reviewed.	WRDS
<i>Foreign_{it}</i>	An indicator if a firm has activity in foreign jurisdictions, or <i>pifo</i> !=0.	C
<i>FYR12_{it}</i>	An indicator variable for firms with a fiscal year-end in December, and zero otherwise.	C
<i>GAAPETR_{it}</i>	The one-year GAAP effective tax rate, calculated as taxes paid/pre-tax book income, or (<i>txt/pi</i>).	C
<i>GrowthFactor</i>	Fama and French's High Minus Low (HML), which they calculate as the average return on the small and big value portfolios minus the average return on the small and big growth portfolios. (Daily values)	FF
<i>High_Volatility_{it}</i>	An indicator if the volatility of monthly stock returns (<i>RET-VWRETD</i>) is in the highest quartile for that fiscal year.	CRSP
<i>HighPE_{it}</i>	An indicator variable equal to one if the price (<i>PRCC_F</i>) earnings (<i>IBC</i>) ratio is in the highest quintile, and zero otherwise.	C
<i>InstilPercent_{it}</i>	The number of shares owned by institutional investors over total shares outstanding by cusip and fiscal year. Missing observations are set to zero.	TR
<i>IndustryLeader_{it}</i>	An indicator if a firm has high market power as defined by De Franco, Hou, and Ma (2023) and Kubick, Lynch, Mayberry and Omer (2015).	C
<i>Large_{it}</i>	An indicator variable equal to one if the public float is \$700M or more, and zero otherwise.	C
<i>Leverage</i>	Total long-term debt (<i>DLTT</i>) divided by total assets (<i>AT</i>).	C
<i>Litigation_Words_{it}</i>	The proportion of litigious words in the firm's 10-K of the fiscal year reviewed by the comment letter, as measured by Loughran and McDonald's (2011) dictionary.	WRDS

<i>Loss_{it}</i>	An indicator equal to one if firm reports a loss ($IB < 0$) in the year.	C
<i>Log_Age_{it}</i>	The logged number of years for which total assets (AT) are reported.	C
<i>Log_Comm_Contribs_{it}</i>	The natural logarithm of the firm's total lagged contributions to candidates who were members of the Senate Banking Committee, House Financial Service Committee, senate appropriations Committee or House Appropriations Committee.	Steel (2024)
<i>MarketRiskFactor</i>	Fama and French's excess return on the market (MKTRF), which they calculate as the value-weighted return on all NYSE, NASDAQ, and AMEX stocks minus the one-month Treasury bill rate. (Daily values)	FF
<i>Merger_{it}</i>	An indicator variable equal to one for nonzero acquisitions of mergers (AQP) in years t , $t-1$, or $t-2$.	C
<i>Momentum</i>	Fama and French's Momentum (UMD), which they calculate as the average return on the small and big high prior return portfolios minus the average return on the small and big low prior return portfolios. (Daily values)	FF
<i>MV_Equity_{it}</i>	The natural log of market capitalization, computed as shares outstanding at fiscal year-end ($CSHO$) times the share price at fiscal year-end ($PRCC_F$) + 1.	C
<i>MW_{it}</i>	An indicator variable if the internal control audit opinion is qualified for a material weakness in year t .	AA
<i>Number_Comments_{it}</i>	The number of comments in a comment letter.	AA
<i>Res_Announced_{it}</i>	An indicator variable equal to one for firms that announced a 10-K restatement in year t , and zero otherwise.	AA
<i>Restate_{it}</i>	An indicator variable equal to one if the firm filed a 10-K restatement in year t , $t-1$, or $t-2$.	AA
<i>Sales_Growth_{it-1}</i>	Net sales ($SALE_t - SALE_{t-1}$), scaled by $SALE_{t-1}$.	C
<i>Small_Float_{it}</i>	An indicator variable equal to one if the public float is less than \$75 million, and zero otherwise.	AA
<i>SizeFactor</i>	Fama and French's Small Minus Big (SMB), which they calculate as the average return on the three small (value, neutral, and growth) portfolios minus the average return on the three big (value, neutral and growth) portfolios. (Daily values)	FF
<i>Spike_{it}</i>	An indicator variable for abnormal spikes in transactional filings assigned to a branch-year, calculated as described in Ege et al. (2020).	AA, TA
<i>Tenure_{it}</i>	The natural log of the number of consecutive years (through year t) for which an auditor has audited the firm.	AA
<i>Trend_{it}</i>	A count variable for each successive year in the sample period (i.e., 1 in 2011, 2 in 2012, etc.).	C

Key: AA=Audit Analytics, C=Compustat, CS=Compustat Segments, FF = Fama French Factors, FOIA=Provided by SEC through Freedom of Information Act, HC=Hand Collected, TA= Textual Analysis, TR=Thomson Reuters Institutional (13F) Holdings, WRDS=WRDS SEC Analytics.

Appendix B: Example of Identifying Full Scope and Limited Scope Comment

Letters

Full Scope Review:

**Re: Apple Inc.
Form 10-K for the Fiscal Year Ended September 27, 2008
Filed on November 5, 2008
File No. 000-10030**

Dear Mr. Oppenheimer:

We have reviewed the above-referenced filing and have the following comments. If indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Limited Scope Review:

**Re: Apple Inc.
Form 10-K/A for the Fiscal Year Ended September 26, 2009
Filed on January 25, 2010
File No. 000-10030**

Dear Mr. Oppenheimer:

We have reviewed the above-referenced filing and have the following comments. Please note that we have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your document. If indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with supplemental information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Appendix IA.1: Additional Descriptive Data about the SEC

**TABLE IA.1
Spending and Employees by SEC Division from 2011–2020**

Year	Enforcement				Examinations				
	Full-Time Employees	Salaries and Benefits	Non-Personnel Expenses	Total Direct Costs	Full-Time Employees	Salaries and Benefits	Non-Personnel Expenses	Total Direct Costs	
<i>Hiring_Freeze=0</i>	2011	1,236	252,386,000	163,044,000	415,430,000	867	174,803,000	85,134,000	259,937,000
	2012	1,219	254,137,000	162,678,000	416,815,000	820	169,237,000	80,011,000	249,248,000
	2013	1,267	269,370,000	179,980,000	449,350,000	887	184,291,000	86,275,000	270,566,000
	2014	1,266	282,114,000	173,663,000	455,777,000	902	196,959,000	80,730,000	277,689,000
	2015	1,331	310,073,000	174,941,000	485,014,000	925	213,304,000	71,897,000	285,201,000
	2016	1,380	345,173,000	183,800,000	528,973,000	1,023	253,060,000	96,031,000	349,091,000
<i>Hiring_Freeze=1</i>	2017	1,393	349,202,000	163,055,000	512,257,000	1,063	267,780,000	79,493,000	347,273,000
	2018	1,385	364,388,000	160,101,000	524,489,000	1,024	267,667,000	86,112,000	353,779,000
	2019	1,299	361,037,000	187,484,000	548,521,000	1,042	271,367,000	104,524,000	375,891,000
	2020	1,305	374,115,000	214,415,000	588,530,000	1,058	288,181,000	124,323,000	412,504,000
% Change from 2016–2019	-5.9%	4.6%	2.0%	3.7%	1.9%	7.2%	8.8%	7.7%	
% Change from 2016–2020	-5.4%	8.4%	16.7%	11.3%	3.4%	13.9%	29.5%	18.2%	

This table presents actual SEC spending and employees by year and division from 2011–2020 according to annual Congressional budget justifications and performance reports. The reports used for this table are available here: https://www.sec.gov/reports?aId=edit-tid&year=All&field_article_sub_type_secart_value=Reports+and+Publications-BudgetReports&tid=All

TABLE IA.1
Spending and Employees by SEC Division from 2011–2020 (continued)

Year	Corporation Finance				Trading and Markets				
	Full-Time Employees	Salaries and Benefits	Non-Personnel Expenses	Total Direct Costs	Full-Time Employees	Salaries and Benefits	Non-Personnel Expenses	Total Direct Costs	
<i>Hiring Freeze=0</i>	2011	471	94,014,000	41,848,000	135,862,000	212	43,920,000	20,655,000	64,575,000
	2012	448	91,798,000	36,719,000	128,517,000	225	46,837,000	19,494,000	66,331,000
	2013	455	96,416,000	39,654,000	136,070,000	247	52,231,000	21,159,000	73,390,000
	2014	457	100,040,000	35,430,000	135,470,000	242	54,340,000	20,293,000	74,633,000
	2015	463	105,636,000	31,169,000	136,805,000	243	57,024,000	18,103,000	75,127,000
	2016	477	117,713,000	40,460,000	158,173,000	258	64,798,000	24,865,000	89,663,000
<i>Hiring Freeze=1</i>	2017	461	116,144,000	31,921,000	148,065,000	263	66,008,000	19,161,000	85,169,000
	2018	423	113,097,000	32,658,000	145,755,000	246	65,076,000	19,112,000	84,188,000
	2019	404	111,776,000	29,977,000	141,753,000	233	63,552,000	19,328,000	82,880,000
	2020	393	113,925,000	47,491,000	161,416,000	248	69,521,000	28,679,000	98,200,000
% Change from 2016–2019	-15.3%	-5.0%	-25.9%	-10.4%	-9.7%	-1.9%	-22.3%	-7.6%	
% Change from 2016–2020	-17.6%	-3.2%	17.4%	2.1%	-3.9%	7.3%	15.3%	9.5%	

This table presents actual SEC spending and employees by year and division from 2011–2020 according to annual Congressional budget justifications and performance reports. The reports used for this table are available here: https://www.sec.gov/reports?ald=edit-tid&year=All&field_article_sub_type_secart_value=Reports+and+Publications-BudgetReports&tid=All

TABLE IA.1

Spending and Employees by SEC Division from 2011–2020 (continued)

Year	Investment Management				Economic Risk and Analysis				
	Full-Time Employees	Salaries and Benefits	Non-Personnel Expenses	Total Direct Costs	Full-Time Employees	Salaries and Benefits	Non-Personnel Expenses	Total Direct Costs	
<i>Hiring Freeze=0</i>	2011	156	33,453,000	15,021,000	48,474,000	57	13,496,000	5,375,000	18,871,000
	2012	153	33,459,000	13,947,000	47,406,000	56	13,753,000	5,330,000	19,083,000
	2013	155	35,215,000	14,408,000	49,623,000	44	17,482,000	12,322,000	29,804,000
	2014	165	39,918,000	12,890,000	52,808,000	56	22,038,000	29,918,000	51,956,000
	2015	173	41,896,000	12,624,000	54,520,000	133	30,890,000	21,389,000	52,279,000
	2016	183	47,655,000	12,994,000	60,649,000	151	39,031,000	31,752,000	70,783,000
<i>Hiring Freeze=1</i>	2017	182	47,193,000	12,151,000	59,344,000	157	39,919,000	28,088,000	68,007,000
	2018	174	47,000,000	12,354,000	59,354,000	148	39,242,000	31,692,000	70,934,000
	2019	176	48,407,000	11,860,000	60,267,000	135	37,925,000	33,025,000	70,950,000
	2020	189	52,821,000	20,765,000	73,586,000	133	37,162,000	29,904,000	67,066,000
% Change from 2016–2019	-3.8%	1.6%	-8.7%	-0.6%	-10.6%	-2.8%	4.0%	0.2%	
% Change from 2016–2020	3.3%	10.8%	59.8%	21.3%	-11.9%	-4.8%	-5.8%	-5.3%	

This table presents actual SEC spending and employees by year and division from 2011–2020 according to annual Congressional budget justifications and performance reports. The reports used for this table are available here: https://www.sec.gov/reports?aId=edit-tid&year=All&field_article_sub_type_secart_value=Reports+and+Publications-BudgetReports&tid=All

TABLE IA.2
Employees Leaving Division of Corporation Finance by Year

Year	Total Corp Fin Employees	Employees who left SEC	Accounting	Legal	Support	Percent Left	Percent Accounting	Percent Legal	Percent Support	Average Salary	Average Salary - Accounting	Average Salary - Legal	Average Salary - Support
<i>Hiring Freeze=0</i>													
2011	495	21	5	11	5	4.2%	23.8%	52.4%	23.8%	142,532	160,549	129,322	156,337
2012	492	28	8	17	3	5.7%	28.6%	60.7%	10.7%	161,805	166,025	163,060	143,440
2013	509	22	4	13	5	4.3%	18.2%	59.1%	22.7%	175,587	160,898	179,158	178,669
2014	496	29	13	12	4	5.8%	44.8%	41.4%	13.8%	167,998	172,843	158,667	184,326
2015	511	42	19	19	4	8.2%	45.2%	45.2%	9.5%	180,644	193,569	170,048	136,410
2016	507	32	7	21	4	6.3%	21.9%	65.6%	12.5%	164,479	201,452	154,902	147,660
<i>Hiring Freeze=1</i>													
2017	485	1	1	0	0	0.2%	100.0%	0.0%	0.0%	233,433	233,433	NA	NA
2018	488	24	9	13	2	4.9%	37.5%	54.2%	8.3%	193,254	219,307	177,205	180,325
2019	464	27	7	15	5	5.8%	25.9%	55.6%	18.5%	206,026	230,280	199,467	170,334
2020	460	23	9	10	4	5.0%	39.1%	43.5%	17.4%	206,603	228,090	211,355	146,379

This table presents statistics on Corp Fin employees who left the SEC from 2011–2020 based upon the combination of FOIA data and public salary data at www.federalpay.org. The total number of employees does not necessarily agree to Table IA.1 because Congressional budget justifications report full-time employee equivalents.

Appendix IA.2: Bivariate Probit Analysis Details

The SEC's propensity to detect financial reporting errors is a joint function of the probability that an error exists in the financial statements and the probability that the SEC detects that error during the review process. However, only the latter outcome is observable to researchers. Ignoring this problem results in measurement error that can lead to incorrect inferences.

I follow the approach in Wang (2013) and Gunny and Hermis (2020) to create a bivariate probit model that directly estimates the joint probability of a financial reporting error existing in the financial statements and the SEC detecting the error (conditional on the error's existence).

More formally, let E_i be the probability that firm i has a financial reporting error in its financial statements and let D_i be the SEC's propensity to identify that error through the review process, conditional on its existence. E_i and D_i can be written as follows:

$$E_i = X_{E,i} \beta_E + u_i$$

$$D_i = X_{D,i} \beta_D + v_i$$

where u_i and v_i are mean-zero error terms that are assumed to have a bivariate normal distribution with correlation ρ .

I do not observe the realizations of E_i and D_i directly. Instead, I observe an error during the review process only if the SEC detects it, defined by the interaction between E_i and D_i :

$$ErrorCaught_i = E_i \times D_i$$

where $ErrorCaught_i=1$ if the SEC detects an error in firm i 's financial statements during the review process (i.e., $[E_i=1 | D_i=1]$). $ErrorCaught_i=0$ if either no error exists or the SEC does not detect it during the review process (i.e., $[E_i=1|D_i=0]$ or $E_i=0$).

Poirier (1980) describes a bivariate probit model to address the problem of partial observability. There are two conditions for identification:

- 1) The explanatory variable vectors $X_{E,i}$ and $X_{D,i}$ do not contain the same variables (i.e., each process must have distinct determinants). This is akin to an exclusion restriction.
- 2) The explanatory variables must exhibit substantial variation. For example, continuous covariates are preferred to discrete ones. This condition constrains my ability to include extensive fixed effects. To partially mitigate this problem, I use data beginning in 2005 rather than beginning in my main sample period of 2010 to increase the data available for estimation.

I solve for β_E and β_D using the maximum likelihood method. This procedure recovers the most likely coefficient values for each process given data on errors that the SEC detects through the review process, data on distinct determinants for each process, and distributional assumptions. I base the determinants of each process on economic theory and prior empirical work as described next.

Determinants of the probability of existence of an error: "Prob (Error)"

My model for the probability of an error's existence is as follows, using firm and auditor characteristics associated with financial reporting quality (e.g., Cassell et al. 2013):

$$\begin{aligned}
 E_{it} = & \beta_0 + \beta_1 MV_Equity_{it} + \beta_2 MW_{it} + \beta_3 Log_Age_{it} + \beta_4 Loss_{it} + \\
 & \beta_5 Bankruptcy_Rank_{it} + \beta_6 Merger_{it} + \beta_7 Betav_{it} + \beta_8 InstilPercent_{it} + \beta_9 Big4_{it} + \\
 & \beta_{10} Leverage_{it} \\
 & + \beta_{11} Trend_t + \varepsilon_{it}
 \end{aligned}
 \tag{4a}$$

I include $Trend_t$ in Eq. (3a) to capture time trends in financial reporting quality, given evidence that it is increasing over time (e.g., Deloitte 2016). I am unable to add year fixed effects due to data restrictions.

Determinants of the SEC's propensity to detect errors: "Prob (Detection | Error)"

My model for the SEC's propensity to detect a financial reporting error conditional on its existence is as follows:

$$\begin{aligned}
 D_{it} = & \beta_0 + \beta_1 Full_Scope_{it} + \beta_2 Hiring_Freeze_t + \beta_3 Full_Scope_{it} \times Hiring_Freeze_t + \\
 & \beta_4 FYR12_{it} + \beta_5 Res_Announced_{it} + \beta_6 High_Volatility_{it} + \beta_7 HighPE_{it} + \beta_8 Large_{it} + \\
 & \beta_9 Small_Float_{it} + Office\ FE + \varepsilon_{it}
 \end{aligned}
 \tag{4b}$$

This equation is based on SOX Section 408 criteria that the SEC is required to consider when making review decisions. I also include SEC workload variables that may impact the likelihood of detection and explanatory variables of interest. The office fixed effects control for industry-related factors as well as office-specific factors such as leadership and teams.

Appendix IA.3: Heterogeneity Tests

TABLE IA.3
The Effect of the SEC Hiring Freeze on Subtopics of Accounting Comments

Dependent Variable:	<i>Rev_CL_{it}</i>	<i>Exp_CL_{it}</i>	<i>Comp_CL_{it}</i>	<i>PIL_CL_{it}</i>	<i>LAR_CL_{it}</i>	<i>Debt_DerivCL_{it}</i>	<i>CF_CL_{it}</i>	<i>Pres_CL_{it}</i>	<i>Acq_CL_{it}</i>	<i>Consol_CL_{it}</i>	<i>Tax_CL_{it}</i>	<i>Other_CL_{it}</i>
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>Hiring_Freeze_t</i>	-0.16*** (-4.65)	-0.08* (-1.83)	-0.20*** (-11.75)	-0.22*** (-5.73)	-0.30*** (-9.09)	-0.22*** (-6.53)	-0.20*** (-5.82)	-0.03** (-2.02)	-0.25*** (-7.53)	-0.04** (-2.20)	-0.26*** (-7.93)	-0.19*** (-5.30)
<i>Full_Scope_{it}</i>	-0.04** (-2.17)	0.00 (0.20)	0.18*** (11.60)	0.00 (0.23)	-0.02 (-1.06)	0.01 (0.39)	0.02 (1.58)	0.00 (-0.53)	0.00 (-0.09)	0.01 (1.05)	-0.04*** (-4.32)	-0.01 (-0.45)
<i>Full_Scope_{it} x Hiring_Freeze_t</i>	0.03 (1.67)	0.04* (1.90)	-0.13*** (-7.51)	0.04* (1.92)	0.05* (1.93)	0.04* (1.81)	0.03* (1.72)	0.02** (2.07)	0.06** (2.47)	0.00 (-0.44)	0.05*** (2.69)	0.02 (0.79)
<i>N</i>	6,377	6,377	6,377	6,377	6,377	6,377	6,377	6,377	6,377	6,377	6,377	6,377
Adj. R ²	0.04	0.04	0.14	0.10	0.06	0.05	0.06	0.02	0.04	0.02	0.06	0.06
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry, Year

This table presents OLS regression results examining the effect of the SEC hiring freeze on the existence of comments about accounting subtopics for a sample of comment letter conversations initiated by the SEC from 2011–2020. The estimated regression equation is $Comment_{it} = \beta_0 + \beta_1 Hiring_Freeze_t + \beta_2 Full_Scope_{it} + \beta_3 Full_Scope_{it} \times Hiring_Freeze_t + \Sigma \beta X + \gamma_j + \gamma_t + \epsilon_{it}$.

All columns use SIC2 industry and SEC fiscal year fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the SIC2 industry level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

TABLE IA.4
Cross-Sectional Effect of Error Materiality on the SEC's Propensity to
Detect Financial Reporting Errors around the Hiring Freeze

Dependent Variable:	<i>ErrorCaught_{it}</i>
Variables	(1)
<i>Hiring_Freeze_t</i>	0.06 (0.31)
<i>Full_Scope_{it}</i>	0.03 (0.98)
<i>Severe_{it}</i>	0.06 (0.94)
<i>Full_Scope_{it} x Hiring_Freeze_t</i>	0.15** (2.08)
<i>Severe_{it} x Hiring_Freeze_t</i>	0.04 (0.18)
<i>Full_Scope_{it} x Severe_{it}</i>	0.04 (0.47)
<i>Full_Scope_{it} x Hiring_Freeze_t x Severe_{it}</i>	-0.13 (-0.44)
<i>N</i>	838
Adj. R ²	0.04
Controls	Yes
Fixed Effects	Industry, Year

This table presents OLS regression results examining if the propensity of the SEC to detect financial reporting errors after the hiring freeze varies by the severity of the error. *Severe* is an indicator for non-reliance restatements that were announced on Form 8-K. The sample is comment letter conversations initiated by the SEC from 2011–2020 whose filings were later restated. The estimated regression equation is $ErrorCaught_{it} = \beta_0 + \beta_1 Hiring_Freeze_t + \beta_2 Full_Scope_{it} + \beta_3 Severe_{it} + \beta_4 Full_Scope_{it} \times Hiring_Freeze_t + \beta_5 Severe_{it} \times Hiring_Freeze_t + \beta_6 Full_Scope_{it} \times Severe_{it} + \beta_7 Full_Scope_{it} \times Hiring_Freeze_t \times Severe_{it} + \Sigma \beta X + \gamma_j + \gamma_t + \varepsilon_{it}$.

All columns use SIC2 industry and SEC fiscal year fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the SIC2 industry level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Appendix IA.4: Other Regulatory Agencies

TABLE IA.5
US State Securities Regulator Aggregate Enforcement Statistics from 2012–2020

Category	2012	2013	2014	2015	2016	2017	2018	2019	2020
Investigations	5,865	5,302	4,853	4,112	4,341	4,790	5,320	6,525	5,501
Enforcement Actions	2,496	2,184	2,042	2,060	2,017	2,150	2,067	2,755	2,202
Restitution	694,000,000	616,000,000	405,000,000	536,000,000	231,000,000	486,000,000	558,000,000	634,000,000	306,000,000
Fines and Penalties	157,000,000	75,000,000	174,000,000	230,000,000	682,000,000	79,000,000	490,000,000	80,000,000	42,000,000
Aggregate Monetary Sanctions	851,000,000	691,000,000	579,000,000	766,000,000	913,000,000	565,000,000	1,048,000,000	714,000,000	348,000,000

This table presents selected US state securities regulator aggregate enforcement statistics from 2012–2020 according to annual NASAA reports. The reports used for this table are available at <https://www.nasaa.org/policy/enforcement-statistics/> .

TABLE IA.6
Spending and Employees for Selected US Regulatory Agencies from 2008–2022

Fiscal Year	SEC		Public Company Accounting Oversight Board		Commodity Futures Trading Commission		Federal Trade Commission		Internal Revenue Service		Environmental Protection Agency	
	Spending	FTE	Spending	FTE	Spending	FTE	Spending	FTE	Spending	FTE	Spending	FTE
2008	905,313,000	3,511	130,214,000	507	111,000,000	449	244,000,000	<1,100	11,307,223,000	90,647	7,472,324,000	16,916
2009	960,189,000	3,656	148,660,000	531	146,000,000	498	259,411,000	>1,100	11,708,604,000	92,577	7,643,674,000	17,049
2010	1,101,547,000	3,748	165,808,000	636	169,000,000	605	292,749,000	>1,100	12,353,344,000	94,711	10,297,864,000	17,278
2011	1,212,859,000	3,844	189,732,000	717	202,000,000	666	292,275,000	>1,100	12,358,877,000	94,709	8,682,117,000	17,359
2012	1,179,912,000	3,770	211,616,006	810	203,700,000	684	312,877,000	>1,100	12,059,409,000	90,280	8,449,385,000	17,106
2013	1,276,158,000	4,023	224,078,125	839	223,000,000	682	296,080,000	1,165	11,597,560,000	86,974	7,901,104,000	15,913
2014	1,415,814,000	4,150	234,268,558	864	204,700,000	647	298,000,000	1,164	11,591,007,000	84,133	8,200,000,000	15,408
2015	1,478,583,000	4,301	245,890,431	851	234,900,000	690	293,000,000	1,176	11,395,839,000	79,890	8,139,887,000	14,725
2016	1,608,429,000	4,554	249,600,067	876	265,476,500	716	306,900,000	1,191	11,707,422,000	77,924	8,139,887,000	14,779
2017	1,576,988,000	4,616	256,840,531	876	264,200,000	689	306,317,000	1,162	11,526,389,000	76,832	8,058,488,000	15,408
2018	1,616,476,000	4,483	249,485,000	842	250,500,000	669	310,874,000	1,140	11,746,448,000	73,519	8,824,488,000	14,172
2019	1,655,986,000	4,350	258,364,000	838	249,800,000	657	306,317,000	1,140	11,825,241,000	73,554	8,849,488,000	14,172
2020	1,801,071,000	4,411	256,709,000	850	283,800,000	672	351,000,000	1,140	12,316,275,000	75,773	9,057,401,000	14,172
2021	1,951,710,000	4,459	264,431,000	859	305,100,000	673	352,000,000	1,123	13,701,027,000	78,661	9,237,153,000	14,297
2022	2,024,410,000	4,965	279,721,000	891	317,445,815	676	379,000,000	1,119	14,267,359,000	79,070	9,559,485,000	14,581

This table presents government agency spending and full-time employee equivalents by year from 2008–2022 according to annual Congressional budget justifications and performance reports. The reports used for this table are available at each agency's website. I begin in 2008 due to data availability. Text in red indicates a decrease from the prior year's spending or employees.

TABLE IA.7
Canadian Continuous Disclosure Review Program Statistics from 2011–2020

	Number of Reviews	Review Types			Review Outcomes			
		Issue-Oriented Review	Full Scope Review	Referred to Enforcement	Refiling	Prospective Changes	Education and Awareness	No Action Required
2011	1,351	68%	32%	4%	16%	40%	10%	30%
2012	1,248	64%	36%	2%	17%	28%	9%	44%
2013	1,336	72%	28%	5%	14%	26%	2%	53%
2014	991	78%	22%	9%	14%	37%	16%	24%
2015	1,058	74%	26%	8%	21%	30%	9%	32%
2016	902	69%	31%	8%	23%	31%	11%	27%
2017	1,014	80%	20%	6%	13%	24%	24%	33%
2018	840	81%	19%	8%	18%	25%	10%	39%
2019	514	70%	30%	10%	23%	34%	4%	29%
2020	583	73%	27%	8%	17%	30%	4%	41%

This table presents Canadian continuous disclosure review program statistics from 2011–2020 according to annual Canadian Securities Administrator staff notices. The reports used for this table are available at <https://www.securities-administrators.ca/page/1/?search-sort=relevance&s=%22continuous+disclosure%22+%22CSA+Staff+Notice+51%22#038;s=%22continuous+disclosure%22+%22CSA+Staff+Notice+51%22> .

Appendix IA.5: Alternative Explanations

TABLE IA.8
The Effect of Republican Administrations on the SEC's
Propensity to Identify Financial Reporting Errors

Dependent Variable:	<i>ErrorCaught_{it}</i>
Variables	(1)
<i>Repub_t</i>	0.28*** (4.81)
<i>Full_Scope_{it}</i>	0.04 (1.53)
<i>Full_Scope_{it} x Repub_t</i>	0.05 (1.49)
<i>N</i>	1,579
Adj. R ²	0.09
Controls	Yes
Fixed Effects	Industry, Year

This table presents OLS regression results examining the differential effect of Republican administrations on detecting financial reporting errors in full scope reviews as compared to limited scope reviews in a sample of comment letter conversations initiated by the SEC from 2005–2020 whose filings were later restated. The estimated regression equation is $ErrorCaught_{it} = \beta_0 + \beta_1 Repub_t + \beta_2 Full_Scope_{it} + \beta_3 Full_Scope_{it} \times Repub_t + \Sigma \beta X + \gamma_j + \gamma_t + \varepsilon_{it}$.

All columns use SIC2 industry and SEC fiscal year fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the SIC2 industry level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Appendix IA.6: Alternative Specifications

TABLE IA.9
The Effect of the SEC Hiring Freeze on its Propensity to Detect
Financial Reporting Errors in Matched Samples

Dependent Variable:	<i>ErrorCaught_{it}</i>	
Sample	Propensity Score	Entropy Balanced
Variables	(1)	(2)
<i>Hiring_Freeze_t</i>	0.07 (0.36)	0.08 (0.45)
<i>Full_Scope_{it}</i>	0.05 (1.13)	0.03 (1.01)
<i>Full_Scope_{it} x Hiring_Freeze_t</i>	0.15** (2.06)	0.10 (1.66)
<i>N</i>	644	800
Adj. R ²	0.03	0.06
Controls	Yes	Yes
Fixed Effects	Industry, Year	Industry, Year

This table presents OLS regression results examining the differential effect of the SEC hiring freeze on the likelihood that the SEC identifies a financial reporting error in full scope reviews as compared to limited scope reviews for a matched sample of comment letter conversations initiated by the SEC from 2011–2020 whose filings were later restated. The estimated regression equation is $ErrorCaught_{it} = \beta_0 + \beta_1 Hiring_Freeze_t + \beta_2 Full_Scope_{it} + \beta_3 Full_Scope_{it} x Hiring_Freeze_t + \Sigma \beta X + \gamma_j + \gamma_t + \varepsilon_{it}$.

All columns use SIC2 industry and SEC fiscal year fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the SIC2 industry level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

TABLE IA.10
The Effect of the SEC Hiring Freeze on its Propensity to Detect Financial Reporting Errors: Branch-Year Fixed Effects

Dependent Variable:	<i>ErrorCaught_{it}</i>		
Sample	2011–2020	2011–2016	2017–2020
Variables	(1)	(2)	(3)
<i>Full_Scope_{it}</i>	0.06* (1.82)	0.04 (0.99)	0.18*** (2.89)
<i>N</i>	834	697	137
Adj. R ²	0.05	0.02	0.21
Controls	Yes	Yes	Yes
Fixed Effects	Branch-Year	Branch-Year	Branch-Year

This table presents OLS regression results examining the association between full scope reviews and the SEC's propensity to identify financial reporting errors on a sample of comment letter conversations initiated by the SEC from 2011 to 2020 whose filings were later restated. The estimated regression equation is $ErrorCaught_{it} = \beta_0 + \beta_1 Full_Scope_{it} + \Sigma \beta X + \gamma_{jt} + \varepsilon_{it}$.

All variables are defined in Appendix A. Standard errors are clustered at the branch-year level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

TABLE IA.11
The Effect of the SEC Hiring Freeze on its Propensity to Detect Financial Reporting Errors: Instrumental Variable Design

Dependent Variable: Variables	<i>ErrorCaught_{it}</i> (1)	<i>ErrorCaught_{it}</i> (2)
<i>Limited_Scope_{it}</i>	0.04 (0.33)	0.06 (0.27)
Effective F-Statistic	29.72	15.35
<i>N</i>	1,309	846
Adj. R ²	0.01	0.01
Controls	No	Yes
Fixed Effects	Industry	Industry

This table presents two-stage least squares regression results examining the effect on financial reporting error detection for filings that were pushed from full to limited scope review by the hiring freeze. The sample is comment letter conversations initiated by the SEC from 2011–2020 whose filings were later restated. The instrument is an indicator variable for filings reviewed from 2017–2020.

All columns use SIC2 industry fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the SIC2 industry level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively. The Effective F-Statistic is a robust weak instrument test statistic calculated based on Montiel Olea and Pflueger (2013). The critical values for 10% of the worst-case bias and 20% of the worst-case bias are 23.109 and 15.062, respectively.

Appendix IA.7: Recognition Measure Details

I create a new measure, $RecogQs_{it}$, that seeks to capture the number of SEC questions that focus on accounting and recognition topics rather than purely disclosure. To construct this measure, I reviewed comment letter data and identified the following set of terms that occurs in questions that focus on accounting and recognition issues. I use the Audit Analytics comment thread data and the following terms to count the number of recognition questions in a firm's comment letter conversation. To validate this measure, I review the resulting coding and note that $RecogQs_{it}$ is much more highly correlated with accounting topics than other comment topics. Additionally, $HighRecog_{it}$ has similar market reactions to $HighDefAreas_{it}$ and $HighDiscChanges_{it}$ in both the 2005–2010 and 2011–2020 periods.

ACCOUNTED FOR AS A CORRECTION	APPROPRIATE TO ACCOUNT
ACCOUNTED FOR AT FAIR VALUE	APPROPRIATE TO ASSESS
ACCOUNTING COMPLIES	APPROPRIATE TO CLASSIFY
ACCOUNTING ENTRIES	APPROPRIATE TO PRESENT
ACCOUNTING FOR THE ACQUISITION	APPROPRIATE TO RECOGNIZE
ACCOUNTING FROM THE ACQUISITIONS	APPROPRIATE TO RECORD
ACCOUNTING GUIDANCE	APPROPRIATE TO VALUE
ACCOUNTING LITERATURE	APPROPRIATELY ACCRUED
ACCOUNTING POLICY OF RECOGNIZING	APPROPRIATELY CLASSIFIED
ACCOUNTING PROCESS	APPROPRIATELY CLASSIFIED
ACCOUNTING YOU APPLIED	APPROPRIATELY PRESENTED
AFFECTED YOUR REVENUE RECOGNITION	APPROPRIATELY RECOGNIZED
AMOUNTS WOULD NOT BE RECORDED	APPROPRIATELY RECORDED
AN ANALYSIS OF HOW YOU DETERMINED	APPROPRIATELY VALUED
ANALYSIS OF LITERATURE	APPROPRIATENESS OF YOUR ACCOUNTING
ANALYSIS OF SUPPORTING LITERATURE	APPROPRIATENESS OF YOUR CLASSIFICATION
ANALYSIS OF THE ACCOUNTING	BASIS FOR ACCOUNTING
ANALYSIS OF THE APPLICABILITY	BASIS FOR DETERMINING
ANALYSIS THAT SUPPORTS YOUR	BASIS FOR RECOGNIZING REVENUES
APPEAR TO MEET THE DEFINITION	BASIS FOR THE ACCOUNTING
APPEARS TO MEET THE DEFINITION	BASIS FOR THIS ACCOUNTING
APPLIED EITF	BASIS FOR YOUR ACCOUNTING
APPLIED FAS	BASIS FOR YOUR CONCLUSION
APPLIED FASB	BASIS IN GAAP
APPLIED SAB	BASIS IN THE ACCOUNTING LITERATURE
APPLIED SFAS	BASIS IN US GAAP
APPLIED THE GUIDANCE	BASIS IS GAAP FOR THAT ACCOUNTING
APPLIED THE LITERATURE	BASIS OF YOUR DETERMINATION

CHANGE IN REVENUE RECOGNITION	DETERMINING YOUR ACCOUNTING
CHANGE IN THE ACCOUNTING METHOD	DISCUSS THE ACCOUNTING
CITE FOR US THE SPECIFIC ACCOUNTING	DISCUSSION OF THE APPLICABILITY
CITE THE ACCOUNTING	ENSURE YOUR ACCOUNTING
CITE THE AUTHORITATIVE	EVALUATE THE VALUATION OF THE INVENTORY
CITE THE LITERATURE	EVALUATE THESE ARRANGEMENTS
CLARIFY FOR US THE BASIS FOR THE AMOUNTS	EVALUATE YOUR ACCOUNTING
CLARIFY HOW YOU CONCLUDED	EXPECT YOU TO RECOGNIZE
CLARIFY HOW YOU DETERMINE	EXPLAIN HOW OUR UNDERSTANDING
CLARIFY THE BASIS FOR THE AMOUNTS	EXPLAIN HOW THIS COMPLIES
CLARIFY WHY IT WAS APPROPRIATE	EXPLAIN HOW THOSE DIFFERENCES
CLASSIFIED ON THE BALANCE SHEET	EXPLAIN HOW YOU ACQUIRED
CLASSIFIED ON THE STATEMENT	EXPLAIN HOW YOU CALCULATED
CONCLUDING HOW TO ACCOUNT	EXPLAIN HOW YOU DETERMINED
CONFIRM THAT YOUR ACCOUNTING	EXPLAIN THE SPECIFIC GAAP GUIDANCE
CONSIDERATION WAS GIVEN TO AMORTIZING	EXPLAIN TO US HOW YOU CALCULATED
CONSIDERATION YOU GAVE	EXPLAIN TO US HOW YOU VALUE
CONSIDERATION YOU HAVE GIVEN	EXPLAIN TO US THE CIRCUMSTANCE
CONSIDERED EITF	EXPLAIN TO US THE NATURE OF SUCH ASSETS
CONSIDERED FAS	EXPLAIN TO US THE NATURE OF SUCH
	LIABILITIES
CONSIDERED GAAP	EXPLAIN TO US THE REASONS
CONSIDERED SFAS	EXPLAIN TO US THE SPECIFIC GAAP GUIDANCE
CONSIDERED THE ACCOUNTING	EXPLAIN TO US WHY
CONSIDERED THE GUIDANCE	EXPLAIN TO US YOUR REVENUE RECOGNITION
CONSIDERED THE LITERATURE	EXPLAIN WHY IT WAS ACCOUNTED
CONSIDERED US GAAP	EXPLAIN WHY YOU CONTINUE TO BELIEVE
DECISION TO NOT RECOGNIZE	EXPLAIN WHY YOUR CURRENT PRESENTATION IS
	CONSISTENT WITH GAAP
DEMONSTRATE THAT YOUR DEFINITION	EXPLAIN WHY YOUR CURRENT PRESENTATION IS
	CONSISTENT WITH US GAAP
DESCRIBE HOW YOU CONCLUDED	EXPLAIN WHY YOUR TEST OF GOODWILL
DESCRIBE THE MODIFICATIONS	EXPLAIN YOUR ACCOUNTING
DESCRIBE THE PROCESS YOU USE TO	FINANCIAL STATEMENTS TO CORRECT FOR THIS
EVALUATE	ERROR
DESCRIBE TO US THE SPECIFIC	FOR US TO BETTER UNDERSTAND THE IMPACT
DETAIL THE ACCOUNTING	HELP US BETTER UNDERSTAND THE NATURE
DETERMINED TO BE APPROPRIATELY	HELP US BETTER UNDERSTAND WHY
CAPITALIZABLE	
DETERMINING THE ACCOUNTING	HELP US BETTER UNDERSTAND YOUR
	DISCLOSURE AND ACCOUNTING
DETERMINING THE APPROPRIATE ACCOUNTING	HELP US MORE FULLY UNDERSTAND
DETERMINING THE APPROPRIATE ALLOCATION	HELP US UNDERSTAND THE EXTENT
DETERMINING THE APPROPRIATE	HOW SUCH VALUATION METHOD
CLASSIFICATION	
DETERMINING THE APPROPRIATE VALUATION	HOW THE EXPENSE IS CLASSIFIED
HOW THE INCOME IS CLASSIFIED	HOW YOU WERE ABLE TO MAKE A
	REASONABLE ESTIMATE
HOW THE METHOD USED	HOW YOUR ACCOUNTING

HOW THE RELATED REVENUES ARE RECOGNIZED	HOW YOUR CLASSIFICATION
HOW THIS PRESENTATION COMPLIES	HOW YOUR ESTIMATE
HOW YOU ACCOUNT	HOW YOUR PRESENTATION OF THE CATEGORIES WITHIN REVENUE
HOW YOU ACCOUNTED	HOW YOUR TREATMENT COMPLIES
HOW YOU ALLOCATE	HOW YOUR VALUATION METHOD
HOW YOU ARE ACCOUNTING	IMPACT REVENUE RECOGNITION
HOW YOU ARRIVED AT THIS ESTIMATE	IMPACTS REVENUE RECOGNITION
HOW YOU CLASSIFY	INTENDED ACCOUNTING TREATMENT
HOW YOU COMPLIED WITH FAS	INTERIM IMPAIRMENT TEST
HOW YOU COMPLIED WITH FOOTNOTE	IT APPEARS YOU EXPENSE
HOW YOU COMPLIED WITH ITEM	IT APPEARS YOU RECOGNIZE
HOW YOU COMPLIED WITH SAB	IT IS APPROPRIATE TO CAPITALIZE
HOW YOU COMPLIED WITH SFAS	IT IS APPROPRIATE TO RECOGNIZE
HOW YOU CONCLUDED IT WAS APPROPRIATE	JOURNAL ENTRIES
HOW YOU CONSIDERED EITF	LED TO THE RECOGNITION
HOW YOU CONSIDERED ESTIMATING	LITERATURE TO YOUR FACTS AND CIRCUMSTANCES
HOW YOU CONSIDERED FAS	MEET THE CRITERIA FOR RECOGNITION
HOW YOU CONSIDERED FOOTNOTE	METHOD IS APPROPRIATE
HOW YOU CONSIDERED ITEM	NOT AGREE WITH THIS ACCOUNTING
HOW YOU CONSIDERED PRESENTING COSTS	NOTE THAT YOU DID NOT RECOGNIZE
HOW YOU CONSIDERED SAB	NOTE YOU HAVE NOT RECOGNIZED GAIN
HOW YOU CONSIDERED SFAS	NOTE YOU HAVE NOT RECOGNIZED INCOME
HOW YOU CONSIDERED THE FACT	NOTE YOU HAVE NOT RECOGNIZED LOSS
HOW YOU DETERMINED THAT A VALUATION ALLOWANCE	PROPERLY CLASSIFIED
HOW YOU DETERMINED THE AMOUNT	PROPERLY ESTIMATED
HOW YOU DETERMINED THE CLASSIFICATION AND ACCOUNTING	PROPERLY PRESENTED
HOW YOU DETERMINED THE FAIR VALUE	PROPERLY RECORDED
HOW YOU DETERMINED THE INVESTMENT	PROVIDE A BASIS
HOW YOU DETERMINED THE VALUE	PROVIDE A COMPREHENSIVE ANALYSIS
HOW YOU DETERMINED THIS AMOUNT	PROVIDE A DETAILED RECONCILIATION
HOW YOU DETERMINED YOUR ALLOCATION	PROVIDE A QUANTITATIVE ANALYSIS
HOW YOU HAVE ACCOUNTED	PROVIDE A RECONCILIATION
HOW YOU HAVE APPLIED THE PROVISIONS	PROVIDE AN ANALYSIS OF YOUR METHODS
HOW YOU HAVE ATTRIBUTED REVENUES	PROVIDE COPIES
HOW YOU HAVE DETERMINED	PROVIDE SUFFICIENT PERSUASIVE EVIDENCE
HOW YOU INTEND TO ACCOUNT	PROVIDE THE BASIS
HOW YOU MEASURE	PROVIDE THE RECONCILIATION

PROVIDE US A COMPREHENSIVE ANALYSIS	REVISE TO SEPARATELY PRESENT
PROVIDE US A REVISED ROLL FORWARD	REVISE YOUR ACCOUNTING TREATMENT
PROVIDE US COPIES	REVISE YOUR FINANCIAL STATEMENTS TO ADJUST
PROVIDE US WITH A BASIS	REVISE YOUR FINANCIAL STATEMENTS TO PROPERLY REFLECT
PROVIDE US WITH A RECONCILIATION	REVISE YOUR FINANCIAL STATEMENTS TO REFLECT
PROVIDE US WITH OBJECTIVELY VERIFIABLE SUPPORT	REVISE YOUR HISTORICAL
PROVIDE US WITH THE BASIS	SHALL BE RECOGNIZED
PROVIDE US WITH THE RECONCILIATION	SHOULD ADJUST NET INCOME
PROVIDE US WITH YOUR ANALYSIS	SHOULD BE ALLOCATED
PROVIDE US WITH YOUR BASIS	SHOULD BE AMORTIZED
PROVIDE US WITH YOUR COMPUTATIONS	SHOULD BE CLASSIFIED
PROVIDE US WITH YOUR RECONCILIATION	SHOULD BE EXPENSED
PROVIDE YOUR BASIS	SHOULD BE RECOGNIZED
REASONS FOR CHANGING YOUR VALUATION	SHOULD BE RECORDED
RECOGNITION IS APPROPRIATE	SHOULD BE TREATED
RECOGNITION WAS APPROPRIATE	SHOULD BE USED AS THE BASIS
RECOGNIZE A NET GAIN	SHOULD BE VALUED
RECOGNIZE A NET LOSS	SHOULD CONSIDER THE FAIR VALUE
RECONCILE THE PROCEEDS	SHOULD HAVE ALLOCATED
REFERENCE FOR US THE AUTHORITATIVE LITERATURE	SHOULD HAVE AMORTIZED
REFERENCE FOR US THE SPECIFIC AUTHORITATIVE LITERATURE	SHOULD HAVE BEEN ALLOCATED
REFERENCE THE AUTHORITATIVE LITERATURE	SHOULD HAVE BEEN AMORTIZED
REFERENCE THE SPECIFIC AUTHORITATIVE LITERATURE	SHOULD HAVE BEEN CLASSIFIED
REFERENCING FOR US THE AUTHORITATIVE LITERATURE	SHOULD HAVE BEEN EXPENSED
REFERENCING THE AUTHORITATIVE LITERATURE	SHOULD HAVE BEEN RECOGNIZED
REFLECTED IN THE PURCHASE PRICE ALLOCATION	SHOULD HAVE BEEN RECORDED
RELIED UPON TO NOT RECORD	SHOULD HAVE BEEN TREATED
RELIED UPON TO RECORD	SHOULD HAVE BEEN VALUED
REQUIRED TO ACCOUNT	SHOULD HAVE CLASSIFIED
REQUIRED TO BE MEASURED	SHOULD HAVE EXPENDED
RESTATE YOUR FINANCIAL STATEMENTS TO ADJUST	SHOULD HAVE RECOGNIZED
RESULT IN THE USE OF THE FINANCING METHOD OF ACCOUNTING	SHOULD HAVE RECORDED
REVENUE RECOGNITION CRITERIA	SHOULD HAVE TREATED
REVISE EARNINGS	SHOULD HAVE VALUED
REVISE THE BALANCE	SHOULD NO LONGER BE ACCOUNTED FOR
REVISE THE INCOME	SHOULD NOT APPEAR IN YOUR BALANCE SHEET
REVISE THE STATEMENT	SHOULD NOT APPEAR IN YOUR INCOME
REVISE TO CLASSIFY	SHOULD NOT APPEAR IN YOUR STATEMENT
REVISE TO INCLUDE THESE COSTS	SHOULD NOT APPEAR IN YOUR STATEMENTS

SHOULD NOT BE EXPENSED	TELL US HOW YOU INITIALLY VALUED
SHOULD NOT HAVE BEEN AMORTIZED	TELL US HOW YOU RECOGNIZE REVENUE
SHOULD NOT HAVE BEEN CLASSIFIED	TELL US HOW YOU VALUE
SHOULD NOT HAVE BEEN EXPENSED	TELL US HOW YOU VALUED
SHOULD NOT HAVE BEEN RECOGNIZED	TELL US HOW YOU WERE ABLE TO CONCLUDE
SHOULD NOT HAVE BEEN TREATED	TELL US HOW YOUR ACCOUNTING POLICIES
SHOULD NOT HAVE BEEN VALUED	TELL US HOW YOUR ACCOUNTING POLICIES
SHOULD ONLY RECOGNIZE REVENUE	TELL US HOW YOUR TREATMENT IN APPROPRIATE
SHOULD PERFORM AN UPDATED	TELL US HOW YOUR TREATMENT IS APPROPRIATE
STILL BEING CLASSIFIED	TELL US IN DETAIL HOW YOU CONCLUDED
STILL BEING PRESENTED	TELL US IN DETAIL HOW YOU DETERMINED
STILL BEING RECOGNIZED	TELL US THE ACCOUNTING BASIS
SUPPORT YOUR ACCOUNTING	TELL US THE FACTS AND CIRCUMSTANCES
SUPPORT YOUR CLASSIFICATION	TELL US THE METHOD
SUPPORT YOUR DECISION	TELL US THE NATURE
SUPPORT YOUR FINANCIAL STATEMENT CLASSIFICATIONS	TELL US THE VALUE
SUPPORT YOUR FINANCIAL STATEMENT PRESENTATIONS	TELL US WHETHER ANY
SUPPORT YOUR PRESENTATION	TELL US WHY THE ADJUSTMENT DID NOT RESULT
SUPPORT YOUR VALUATION	TELL US YOUR APPROACH
SUPPORTING YOUR ACCOUNTING	TELL US YOUR BASIS FOR NET PRESENTATION
SUPPORTING YOUR POSITION	TELL US YOUR BASIS FOR NOT DOING SO
SUPPORTS YOUR ACCOUNTING	TELL US YOUR BASIS FOR USING
TELL US HOW THE GAIN	TELL US YOUR BASIS IN GAAP
TELL US HOW THE LOSS	TELL US YOUR GAAP BASIS
TELL US HOW YOU ACCOUNTED	TELL US YOUR SOURCE OF GAAP
TELL US HOW YOU ALLOCATED	THE FACTS AND CIRCUMSTANCES THAT SUPPORT YOUR DETERMINATION
TELL US HOW YOU AMORTIZED	THE RECOGNITION OF GOODWILL
TELL US HOW YOU ANALYZED	THESE TRANSACTIONS ARE CONSIDERED
TELL US HOW YOU APPLIED	TO SUPPORT YOUR ACCOUNTING
TELL US HOW YOU CALCULATED	UNDERLYING ACCOUNTING
TELL US HOW YOU CLASSIFIED	UNDERSTAND THE APPROPRIATENESS
TELL US HOW YOU CONSIDERED	UNDERSTAND YOUR EVALUATION
TELL US HOW YOU DETERMINED	UNDERSTANDING OF YOUR ACCOUNTING
TELL US HOW YOU ESTABLISHED	UPDATE YOUR FINANCIAL STATEMENTS TO COMPLY
TELL US HOW YOU ESTIMATE	WE BELIEVE THAT EVEN THOUGH
TELL US HOW YOU EVALUATED	WE SEE THAT YOU RECOGNIZED
TELL US HOW YOU HAVE CONSIDERED	WE SEE THAT YOU RECORDED
TELL US HOW YOU HAVE EVALUATED	WERE ACCOUNTED FOR AND RECORDED
TELL US HOW YOU HAVE TREATED	WHAT AMOUNT HAS BEEN ALLOCATED

WHAT CONSIDERATION WAS GIVEN TO ALLOCATING	YOU HAVE RECOGNIZED INCOME
WHAT MAKES YOU BELIEVE	YOU HAVE RECORDED THIS TRANSACTION
WHAT YOU MEAN BY WE RECORDED	YOU SHOULD REVISE YOUR CONSOLIDATED STATEMENTS
WHETHER YOU ALLOCATED	YOUR ACCOUNTING FOR THE TRANSACTION
WHETHER YOU RECOGNIZE	YOUR BASIS FOR ACCOUNTING
WHETHER YOU TESTED	YOUR BASIS FOR CLASSIFYING
WHY IT IS APPROPRIATE TO RECOGNIZE	YOUR BASIS FOR RECOGNIZING REVENUE
WHY IT IS REASONABLE OF MANAGEMENT TO CONCLUDE	YOUR BASIS IN GAAP
WHY NO IMPAIRMENT CHARGES	YOUR BASIS IN US GAAP
WHY SUCH AMOUNT	YOUR PROPOSED ACCOUNTING
WHY THE METHOD OF RECOGNITION	YOUR PURCHASE PRICE ALLOCATION
WHY THESE ITEMS SHOULD BE RECOGNIZED	
WHY THESE ITEMS SHOULD NOT BE RECOGNIZED	
WHY THESE TRANSACTIONS ARE CLASSIFIED	
WHY THESE TRANSACTIONS ARE PRESENTED	
WHY THESE TRANSACTIONS ARE RECOGNIZED	
WHY THESE TRANSACTIONS ARE RECORDED	
WHY THESE TRANSACTIONS ARE TREATED	
WHY THIS AMOUNT	
WHY THIS ITEM	
WHY THIS PRESENTATION IS APPROPRIATE	
WHY YOU ACCOUNTED	
WHY YOU ACCRUED	
WHY YOU ALLOCATED	
WHY YOU ANALYZED	
WHY YOU BELIEVE	
WHY YOU CLASSIFIED	
WHY YOU DID NOT ALLOCATE	
WHY YOU HAVE NOT AMORTIZED	
WHY YOU HAVE RECORDED	
WHY YOU PRESENTED	
WHY YOU RECORDED	
WHY YOUR ACCOUNTING	
WOULD NOT APPEAR TO MEET	
WOULD NOT BE APPROPRIATE	
YOU ARE REQUIRED TO ACCOUNT	
YOU HAVE ACCOUNTED FOR THE ACQUISITION	
YOU HAVE ACCOUNTED FOR THE MERGER	
YOU HAVE RECOGNIZED EXPENSE	

TABLES

Table 1: Sample Selection Procedures

	Firm-Years	Firms
Intersection of Compustat and Audit Analytics from October 1, 2011 – September 31, 2020	51,889	8,178
Less:		
Filings without comment letters on 10-K/10-Q	43,141	3,852
Missing data for required variables	2,371	1,635
Total Observations in Comment Letter Sample	<u>6,377</u>	<u>2,691</u>
Less:		
Filings that are not Restated	5,539	2,096
Total Observations in Reviewed and Restated Sample	<u>838</u>	<u>595</u>

This table presents sample selection procedures for the primary sample of comment letter conversations initiated by the SEC from 2011–2020.

Table 2: Summary Statistics

Panel A: Descriptive Statistics in Reviewed and Restated Sample (N = 838)

	Mean	Std. Dev.	p25	Median	p75
<i>Full_Scope_{it}</i>	0.66	0.48	0.00	1.00	1.00
<i>Hiring_Freeze_t</i>	0.17	0.38	0.00	0.00	0.00
<i>ErrorCaught_{it}</i>	0.19	0.39	0.00	0.00	0.00
<i>FYR12_{it}</i>	0.73	0.45	0.00	1.00	1.00
<i>MW_{it}</i>	0.17	0.38	0.00	0.00	0.00
<i>MV_Equity_{it}</i>	7.19	1.67	6.21	7.27	8.15
<i>Loss_{it}</i>	0.27	0.45	0.00	0.00	1.00
<i>Bankruptcy_Rank_{it}</i>	7.75	1.88	7.00	8.00	9.00
<i>Sales_Growth_{it}</i>	0.13	0.54	-0.02	0.06	0.17
<i>Merger_{it}</i>	0.48	0.50	0.00	0.00	1.00
<i>Big4_{it}</i>	0.85	0.35	1.00	1.00	1.00
<i>Auditor_Change_{it}</i>	0.04	0.23	0.00	0.00	0.00
<i>Log_Tenure_{it}</i>	1.73	0.87	1.10	1.95	2.49
<i>Log_Age_{it}</i>	3.02	0.78	2.57	3.05	3.64
<i>High_Volatility_{it}</i>	0.28	0.45	0.00	0.00	1.00
<i>Fog_{it}</i>	24.36	2.22	23.37	24.82	25.96
<i>Litigation_Words_{it}</i>	0.02	0.01	0.01	0.02	0.02

This table presents descriptive statistics. The sample is 838 comment letter conversations initiated by the SEC from 2011–2020 whose filings were later restated, representing 595 firms. All variables are defined in Appendix A.

Descriptive Statistics in Comment Letter Sample (N = 6,377)

	Mean	Std. Dev.	p25	Median	p75
<i>Full_Scope_{it}</i>	0.64	0.48	0.00	1.00	1.00
<i>Hiring_Freeze_t</i>	0.25	0.43	0.00	0.00	1.00
<i>Restatement_{it}</i>	0.13	0.34	0.00	0.00	0.00
<i>Number_Comments_{it}</i>	7.21	6.80	3.00	5.00	10.00
<i>Acct_Comm_{it}</i>	0.72	0.45	0.00	1.00	1.00
<i>DeficientAreas_{it}</i>	1.70	1.67	0.00	2.00	3.00
<i>DiscChanges_{it}</i>	1.42	1.70	0.00	0.00	2.00
<i>RecogQs_{it}</i>	1.23	1.52	0.00	0.00	2.00
<i>MW_{it}</i>	0.09	0.29	0.00	0.00	0.00
<i>MV_Equity_{it}</i>	7.27	1.94	6.10	7.31	8.51
<i>Loss_{it}</i>	0.27	0.45	0.00	0.00	1.00

This table presents descriptive statistics. The sample is 6,377 comment letter conversations initiated by the SEC from 2011–2020, representing 2,691 firms. All variables are defined in Appendix A.

Panel B: Comment Letters by Scope and Year

		<i>Full_Scope_{it}</i>	Full Scope Percentage	<i>Limited_Scope_{it}</i>	Limited Scope Percentage	Total
<i>Hiring_Freeze=0</i>	2011	1,177	77.3%	346	22.7%	1,523
	2012	1,091	79.7%	278	20.3%	1,369
	2013	1,101	76.4%	341	23.6%	1,442
	2014	872	72.6%	329	27.4%	1,201
	2015	604	61.9%	371	38.1%	975
	2016	519	54.7%	430	45.3%	949
<i>Hiring_Freeze=1</i>	2017	462	52.9%	411	47.1%	873
	2018	200	33.1%	404	66.9%	604
	2019	196	47.2%	219	52.8%	415
	2020	164	46.7%	187	53.3%	351
	Total	6,386		3,316		9,702

This table presents comment letter conversations initiated by the SEC in Audit Analytics from 2011–2020 by scope and year.

Panel C: Propensity of the SEC to Detect Financial Statement Errors by Scope and Year in Reviewed and Restated Sample

		Full Scope and Error Detected	Full Scope and Error Missed	Percent- age Detected	Limited Scope and Error Detected	Limited Scope and Error Missed	Percent- age Detected	Total Reviewed and Restated
<i>Hiring_Freeze=0</i>	2011	43	103	29.5%	11	42	20.8%	199
	2012	40	137	22.6%	2	34	5.6%	213
	2013	36	151	19.3%	21	46	31.3%	254
	2014	37	96	27.8%	15	50	23.1%	198
	2015	14	66	17.5%	8	42	16.0%	130
	2016	10	45	18.2%	8	43	15.7%	106
<i>Hiring_Freeze=1</i>	2017	15	39	27.8%	7	47	13.0%	108
	2018	5	14	26.3%	7	31	18.4%	57
	2019	7	5	58.3%	3	11	21.4%	26
	2020	2	2	50.0%	1	6	14.3%	11
	Total	209	658		83	352		1,302

This table presents the propensity for the SEC to detect financial statement errors by year and by scope for a sample of comment letter conversations initiated by the SEC from 2011–2020 whose filings were later restated.

Panel D: Pearson Correlations in Reviewed and Restated Sample (N=838)

	1	2	3	4	5	6	7	8	9	10
1 <i>Full_Scope_{it}</i>	1.00									
2 <i>Hiring_Freeze_{it}</i>	-0.20***	1.00								
3 <i>ErrorCaught_{it}</i>	0.07**	0.02	1.00							
4 <i>FYR12_{it}</i>	-0.02	0.01	0.08**	1.00						
5 <i>MW_{it}</i>	0.01	0.08**	0.10***	0.00	1.00					
6 <i>MV_Equity_{it}</i>	-0.07**	0.05	-0.09***	0.11***	-0.23***	1.00				
7 <i>Loss_{it}</i>	-0.01	0.04	0.07**	0.01	0.21***	-0.38***	1.00			
8 <i>Bankruptcy_Rank_{it}</i>	-0.10***	0.04	-0.08**	0.11***	-0.23***	0.93***	-0.39***	1.00		
9 <i>Sales_Growth_{it}</i>	-0.05	0.03	0.02	0.07*	0.13***	-0.01	0.13***	-0.01	1.00	
10 <i>Merger_{it}</i>	-0.05	-0.01	0.02	0.05	-0.09**	0.16***	-0.05	0.18***	0.03	1.00
11 <i>Big4_{it}</i>	-0.03	-0.10***	-0.08**	0.03	-0.15***	0.42***	-0.15***	0.42***	-0.05	0.05
12 <i>Auditor_Change_{it}</i>	-0.01	0.08**	-0.00	-0.04	0.15***	-0.11***	0.08**	-0.10***	0.07**	-0.09***
13 <i>Log_Tenure_{it}</i>	0.01	-0.07**	-0.03	0.03	-0.12***	0.23***	-0.15***	0.22***	-0.08**	0.01
14 <i>Log_Age_{it}</i>	0.02	-0.07**	-0.07**	-0.08**	-0.14***	0.26***	-0.15***	0.24***	-0.19***	0.01
15 <i>High_Volatility_{it}</i>	0.02	0.14***	0.09***	0.05	0.12***	-0.34***	0.30***	-0.33***	0.12***	-0.13***
16 <i>Fog_{it}</i>	-0.13***	0.22***	-0.01	0.13***	0.00	0.28***	-0.06*	0.28***	-0.01	0.12***
17 <i>Litigation_Words_{it}</i>	0.03	-0.11***	0.03	0.06	-0.04	0.09***	-0.05	0.08**	-0.02	0.03

Pearson Correlations in Reviewed and Restated Sample (continued)

	11	12	13	14	15	16	17
11 <i>Big4_{it}</i>	1.00						
12 <i>Auditor_Change_{it}</i>	-0.11***	1.00					
13 <i>Log_Tenure_{it}</i>	0.19***	-0.12***	1.00				
14 <i>Log_Age_{it}</i>	0.14***	-0.05	0.20***	1.00			
15 <i>High_Volatility_{it}</i>	-0.20***	0.16***	-0.13***	-0.29***	1.00		
16 <i>Fog_{it}</i>	0.12***	-0.05	0.06*	0.12***	-0.07*	1.00	
17 <i>Litigation_Words_{it}</i>	0.01	0.04	-0.00	0.07**	-0.05	0.44***	1.00

Pearson Correlations in Comment Letter Sample (N=5,825)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1 <i>Full_Scope_{it}</i>	1.00												
2 <i>Hiring_Freeze_t</i>	-0.19***	1.00											
3 <i>Restatement_{it}</i>	0.01	-0.07***	1.00										
4 <i>Number_Comments_{it}</i>	0.14***	-0.22***	0.07***	1.00									
5 <i>Acct_Comm_{it}</i>	0.01	-0.09***	0.06***	0.29***	1.00								
6 <i>DeficientAreas_{it}</i>	0.04***	-0.10***	0.05***	0.39***	0.29***	1.00							
7 <i>DiscChanges_{it}</i>	0.14***	-0.17***	0.05***	0.43***	0.20***	0.27***	1.00						
8 <i>RecogQs_{it}</i>	0.05***	-0.14***	0.06***	0.45***	0.31***	0.35***	0.22***	1.00					
9 <i>HighDefPerc_{it}</i>	-0.06***	0.09***	-0.00	-0.29***	0.02*	0.40***	-0.12***	-0.06***	1.00				
10 <i>HighDiscChangePerc_{it}</i>	0.03**	0.01	-0.00	-0.19***	-0.00	-0.03**	0.50***	-0.11***	0.13***	1.00			
11 <i>HighRecogPerc_{it}</i>	-0.05***	0.01	0.01	-0.13***	0.15***	0.07***	-0.09***	0.58***	0.19***	0.02	1.00		
12 <i>MW_{it}</i>	-0.03**	0.09***	0.11***	0.05***	-0.02	0.02*	0.01	0.03*	-0.00	-0.02	-0.00	1.00	
13 <i>MV_Equity_{it}</i>	-0.08***	0.07***	-0.02*	-0.12***	0.03**	0.01	-0.06***	-0.04***	0.08***	0.02*	0.04***	-0.19***	1.00

This table presents correlations for a selection of variables. All variables are defined in Appendix A. ***, **, and * denote significance at the 1%, 5%, and 10% levels for the correlations, respectively.

Table 3: Determinants of Filing Review Scope and Comment Letter Receipt around the SEC Hiring Freeze

Dependent Variable: Variables	<i>Full_Scope_{it}</i> (1)	<i>Full_Scope_{it}</i> (2)	<i>CL_{it}</i> (3)	<i>CL_{it}</i> (4)
<i>Hiring_Freeze_t</i>	-0.920*** (-2.66)	-0.758** (-2.12)	-0.771*** (-5.82)	-0.511*** (-3.83)
<i>Ees_Per_Review_{jt}</i>	2.394** (2.10)	1.579 (1.51)	-0.083 (-0.17)	0.000 (0.00)
<i>Hiring_Freeze_t x Ees_Per_Review_{jt}</i>	2.652** (2.39)	1.818* (1.69)	0.956 (1.63)	1.467** (2.54)
<i>Trend_t</i>		-0.024*** (-3.44)		-0.030*** (-7.02)
<i>FYR12_{it}</i>	-0.023 (-1.06)	-0.019 (-0.90)	-0.027** (-2.55)	-0.026** (-2.37)
<i>Hiring_Freeze_t x FYR12_{it}</i>	0.011 (0.27)	0.002 (0.06)	0.006 (0.33)	0.005 (0.30)
<i>Spike_{it}</i>	0.063** (2.14)	0.033 (1.14)		
<i>Hiring_Freeze_t x Spike_{it}</i>	0.108** (2.16)	0.141*** (3.05)		
<i>Log_Comm_Contribs_{it}</i>	0.000 (-0.01)	0.000 (0.00)	0.006*** (3.99)	0.006*** (4.08)
<i>Hiring_Freeze_t x Log_Comm_Contribs_{it}</i>	-0.005 (-1.15)	-0.005 (-1.16)	0.002* (1.92)	0.002* (1.69)
<i>MW_{it}</i>	0.018 (0.43)	0.014 (0.32)	0.000 (-0.04)	-0.001 (-0.06)
<i>Hiring_Freeze_t x MW_{it}</i>	-0.027 (-0.40)	-0.033 (-0.47)	0.044*** (2.76)	0.043*** (2.75)
<i>MV_Equity_{it}</i>	-0.014 (-1.02)	-0.017 (-1.26)	0.051*** (4.79)	0.049*** (4.58)
<i>Hiring_Freeze_t x MV_Equity_{it}</i>	0.016 (0.61)	0.014 (0.53)	0.029*** (2.75)	0.030*** (2.83)
<i>Fog_{it}</i>	-0.007 (-1.00)	-0.004 (-0.73)	-0.013*** (-3.24)	-0.006* (-1.84)
<i>Hiring_Freeze_t x Fog_{it}</i>	0.001 (0.11)	0.001 (0.09)	0.015*** (2.96)	0.02*** (3.31)
<i>N</i>	3,287	3,287	11,406	11,406
Adj. R ²	0.111	0.102	0.113	0.108
Controls	Yes	Yes	Yes	Yes
Fixed Effects	Industry, Year	Industry	Industry, Year	Industry

This table presents OLS regression results examining the determinants of filing review scope and comment letter receipt before and after the SEC hiring freeze for a sample of filings from 2011–2020. The estimated regression equation is $Full_Scope_{it} / CL_{it} = \beta_0 + \sum \beta X + \gamma_j [+ \gamma_i] + \varepsilon_{it}$.

All variables are defined in Appendix A. Some covariates are omitted for brevity. Standard errors are clustered at the SIC2 industry level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Table 4: The Effect of the SEC Hiring Freeze on its Propensity to Detect Financial Reporting Errors

Panel A: Main Difference-in-Differences Analysis					
Dependent Variable:	<i>ErrorCaught_{it}</i>				
Variables	(1)	(2)	(3)	(4)	(5)
<i>Hiring_Freeze_t</i>	0.03	0.13	-0.02	0.07	0.12
	(0.19)	(0.69)	(-0.12)	(0.38)	(0.59)
<i>Full_Scope_{it}</i>			0.01	0.04	0.03
			(0.33)	(1.01)	(0.98)
<i>Full_Scope_{it} x Hiring_Freeze_t</i>			0.16***	0.13**	0.13**
			(2.77)	(2.05)	(2.06)
<i>FYR12_{it}</i>		0.05		0.04	0.04
		(1.44)		(1.21)	(1.31)
<i>MW_{it}</i>		0.09**		0.09*	0.09**
		(2.10)		(1.96)	(2.03)
<i>MV_Equity_{it}</i>		-0.04*		-0.05**	-0.05**
		(-1.91)		(-2.23)	(-2.12)
<i>Loss_{it}</i>		0.00		0.00	0.00
		(-0.02)		(0.04)	(0.08)
<i>Bankruptcy_Rank_{it}</i>		0.03		0.04*	0.04*
		(1.66)		(1.96)	(1.98)
<i>Sales_Growth_{it}</i>		-0.02		-0.01	-0.01
		(-0.42)		(-0.24)	(-0.34)
<i>Merger_{it}</i>		0.04		0.04	0.04
		(1.21)		(1.21)	(1.27)
<i>InvMills_{it}</i>					-0.10
					(-0.99)
<i>N</i>	1,311	842	1,302	838	838
<i>Adj. R²</i>	0.03	0.04	0.03	0.04	0.04
<i>Additional Controls</i>	No	Yes	No	Yes	Yes
<i>Fixed Effects</i>	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry, Year

This table presents OLS regression results examining the differential effect of the SEC hiring freeze on the likelihood that the SEC identifies a financial reporting error in full scope reviews as compared to limited scope reviews for a sample of comment letter conversations initiated by the SEC from 2011–2020 whose filings were later restated. The estimated regression equation is $ErrorCaught_{it} = \beta_0 + \beta_1 Hiring_Freeze_t + \beta_2 Full_Scope_{it} + \beta_3 Full_Scope_{it} \times Hiring_Freeze_t + \Sigma \beta X + \gamma_j + \gamma_t + \epsilon_{it}$.

All columns use SIC2 industry and SEC fiscal year fixed effects. Some covariates are omitted for brevity. All variables are defined in Appendix A. Standard errors are clustered at the SIC2 industry level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Panel B: Bivariate Probit Analysis (all Filings)				
Dependent Variable:	P(Error)		P(Detect Error)	
	Coefficient	p-value	Coefficient	p-value
Variables	(1)	(2)	(3)	(4)
<i>MV_Equity_{it}</i>	-0.09	(-0.47)		
<i>Log_Age_{it}</i>	-0.04	(-0.42)		
<i>MW_{it}</i>	0.65	(1.53)		
<i>Loss_{it}</i>	-0.04	(-0.17)		
<i>Bankruptcy_Rank_{it}</i>	0.07	(0.34)		
<i>Merger_{it}</i>	0.03	(0.22)		
<i>Betav_{it}</i>	0.19	(1.19)		
<i>InstilPercent_{it}</i>	-0.70	(-1.10)		
<i>Big4_{it}</i>	0.08	(0.26)		
<i>Leverage_{it}</i>	0.08	(0.35)		
<i>Trend_t</i>	-0.07**	(-2.27)		
<i>Full_Scope_{it}</i>			0.74***	(4.87)
<i>Hiring Freeze_t</i>			0.13	(0.61)
<i>Full_Scope_{it} x Hiring Freeze_t</i>			0.96***	(3.72)
<i>Res_Announced_{it}</i>			1.12***	(5.40)
<i>High_Volatility_{it}</i>			0.01	(0.06)
<i>HighPE_{it}</i>			-0.013	(-0.10)
<i>Large_{it}</i>			0.24*	(1.85)
<i>Small_Float_{it}</i>			0.054	(0.35)
<i>FYR12_{it}</i>			0.22**	(2.35)
N			16,471	
Fixed Effects		None		Branch
Wald chi-square (<i>df</i>)			199.31 (37)	
Log likelihood			-607.243	

This table presents bivariate probit with partial observability regression results for the probability of the existence of a financial reporting error and the SEC's propensity to detect an error conditional on its existence in a sample of financial statements from 2005–2020. The estimated regression equation is $P(E_{it}) = f(\Sigma\beta X + \varepsilon_{it})$ and $P(D_{it}|E_{it}) = f(\beta_0 + \beta_1 Full_Scope_{it} + \beta_2 Hiring_Freeze_t + \beta_3 Full_Scope_{it} \times Hiring_Freeze_t + \Sigma\beta X + \gamma_j + \varepsilon_{it})$. For more information, see Internet Appendix, Section II.

Standard errors are clustered at the firm level. All variables are defined in Appendix A. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Panel C: Filings that were likely reviewed but did not receive comment letter

Dependent Variable:	<i>Restatement_{it}</i>	
	All Firms (1)	Large Firms who received Comment Letter (2)
<i>Hiring_Freeze_t</i>	-0.11*** (-7.87)	-0.11*** (-4.86)
<i>LargeNoCL_{it}</i>	0.00 (0.05)	-0.01 (-1.14)
<i>LargeNoCL_{it} x Hiring_Freeze_t</i>	-0.02*** (-2.67)	-0.01 (-0.50)
<i>N</i>	26,082	12,586
Adj. R ²	0.22	0.25
Controls	Yes	Yes
Fixed Effects	Firm, Year	Firm, Year

This table presents OLS regression results examining the differential effect of the SEC hiring freeze on filings that were likely reviewed (i.e., large firms) but did not receive a comment letter for a sample of filings from 2011–2020. The estimated regression equation is $Restatement_{it} = \beta_0 + \beta_1 Hiring_Freeze_t + \beta_2 LargeNoCL_{it} + \beta_3 LargeNoCL_{it} \times Hiring_Freeze_t + \Sigma \beta X + \gamma_i + \gamma_t + \epsilon_{it}$.

All columns use firm and SEC fiscal year fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the firm level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Panel D: Sample of all Restated Filings (whether or not reviewed)		
Dependent Variable:	<i>ErrorCaught_{it}</i>	
Variables	(1)	(2)
<i>Hiring_Freeze_{it}</i>	-0.06***	-0.06*
	(-3.05)	(-1.84)
<i>N</i>	4,503	2,706
Adj. R ²	0.02	0.02
Controls	No	Yes
Fixed Effects	Industry, Year	Industry, Year

This table presents OLS regression results examining the association between the SEC hiring freeze and the percentage of financial reporting errors identified by the SEC on a sample of filings that were restated from 2011–2020, regardless of whether they were reviewed by the SEC. The estimated regression equation is $ErrorCaught_{it} = \beta_0 + \beta_1 Hiring_Freeze_{it} + \sum \beta X + \gamma_j + \gamma_t + \epsilon_{it}$.

All columns use SIC2 industry and SEC fiscal year fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the SIC2 industry level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Table 5: The Effect of the SEC Hiring Freeze on Comment Topics in Filing Reviews

Dependent Variable:	<i>Acct_Comm_{it}</i>	<i>MDA_Comm_{it}</i>	<i>Risk_Comm_{it}</i>	<i>Reg_Comm_{it}</i>	<i>IC_Comm_{it}</i>	<i>Other_Comm_{it}</i>	<i>NonGAAP_Comm_{it}</i>
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Hiring_Freeze_t</i>	-0.17*** (-3.90)	-0.21*** (-5.32)	-0.04 (-1.47)	-0.10*** (-4.98)	-0.02* (-1.82)	-0.29*** (-5.69)	0.18*** (4.33)
<i>Full_Scope_{it}</i>	-0.05* (-1.93)	0.23*** (12.99)	0.07*** (10.64)	0.05*** (3.71)	0.01 (1.07)	0.09*** (3.41)	0.01 (0.93)
<i>Full_Scope_{it} x Hiring_Freeze_t</i>	0.09*** (3.35)	-0.07** (-2.46)	-0.03** (-2.27)	-0.04** (-2.30)	0.00 (-0.02)	-0.11** (-2.43)	0.00 (0.14)
<i>N</i>	6,377	6,377	6,377	6,377	6,377	6,377	6,377
Adj. R ²	0.05	0.14	0.04	0.07	0.04	0.11	0.08
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry,	Industry, Year	Industry, Year

This table presents OLS regression results examining the effect of the SEC hiring freeze on the extensive margin of major comment letter topics for a sample of comment letter conversations initiated by the SEC from 2011–2020. The estimated regression equation is $Comment_{it} = \beta_0 + \beta_1 Hiring_Freeze_t + \beta_2 Full_Scope_{it} + \beta_3 Full_Scope_{it} \times Hiring_Freeze_t + \Sigma \beta X + \gamma_j + \gamma_t + \epsilon_{it}$.

All columns use SIC2 industry and SEC fiscal year fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the SIC2 industry level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Table 6: The Effect of the SEC Hiring Freeze on Comment Characteristics

Dependent Variable: Variables	<i>DeficientAreas_{it}</i> (1)	<i>DiscChanges_{it}</i> (2)	<i>RecogQ_{Sit}</i> (3)	<i>HighDefPerc_{it}</i> (4)	<i>HighDiscChangePerc_{it}</i> (5)	<i>HighRecogPerc_{it}</i> (6)
<i>Hiring_Freeze_t</i>	-0.33*** (-2.86)	-0.53*** (-3.69)	-0.90*** (-6.06)	0.18*** (4.41)	0.08** (2.29)	-0.05 (-1.22)
<i>Full_Scope_{it}</i>	0.04 (0.99)	0.24*** (4.52)	0.07* (1.71)	-0.05*** (-4.77)	0.01 (0.56)	-0.06*** (-3.54)
<i>Full_Scope_{it} x Hiring_Freeze_t</i>	0.11* (1.76)	0.02 (0.41)	0.06 (0.62)	0.08*** (3.20)	0.02 (0.77)	0.07*** (3.37)
<i>N</i>	5,825	5,825	5,825	6,377	6,377	6,377
Adj. R ² (OLS)	NA	NA	NA	0.04	0.01	0.02
Pseudo R ² (PPML)	0.02	0.04	0.05	NA	NA	NA
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry, Year	Industry, Year

This table presents OLS and Poisson maximum likelihood regression results examining the association between the SEC's hiring freeze and various comment characteristics for a sample of comment letter conversations initiated by the SEC from 2011–2020. The estimated regression equation is $Characteristic_{it} = \beta_0 + \beta_1 Hiring_Freeze_t + \beta_2 Full_Scope_{it} + \beta_3 Full_Scope_{it} \times Hiring_Freeze_t + \Sigma \beta X + \gamma_j + \epsilon_{it}$.

All columns use SIC2 industry and SEC fiscal year fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the SIC2 industry level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Table 7: The Effect of the SEC Hiring Freeze on SEC Response to Financial Reporting Shocks

Dependent Variable:	<i>Tax_CL_{it}</i>	<i>Tax_CL_{it}</i>	<i>Rev_CL_{it}</i>	<i>Rev_CL_{it}</i>
Sample	2004–2009	2014–2019	2004–2009	2014–2019
Variables	(1)	(2)	(3)	(4)
<i>PostFIN48_{it}</i>	0.00 (-0.24)		-0.02 (-1.19)	
<i>PostTCJA_{it}</i>		-0.06*** (-4.13)		0.06*** (2.58)
<i>MV_Equity_{it}</i>	0.00 (-0.07)	0.00 (0.14)	0.00 (-0.07)	0.01 (0.37)
<i>Loss_{it}</i>	-0.01 (-0.92)	-0.04 (-1.26)	0.07*** (2.82)	0.03 (0.85)
<i>Foreign_{it}</i>	-0.02 (-0.58)	0.07 (1.04)	-0.07 (-1.57)	-0.01 (-0.14)
<i>GAAPETR_{it}</i>	-0.02 (-1.55)	-0.00 (-0.10)	-0.01 (-0.97)	0.00 (0.13)
<i>Big4_{it}</i>	0.00 (-0.07)	0.02 (0.42)	0.05 (1.05)	-0.12 (-1.20)
<i>N</i>	6,853	2,534	6,853	2,534
Adj. R ²	0.06	0.11	0.02	0.06
Fixed Effects	Firm	Firm	Firm	Firm

This table presents OLS regression results examining the effect of the SEC hiring freeze on its propensity to comment on financial reporting shocks in comment letter conversations. The estimated regression equation is $CL_{it} = \beta_0 + \beta_1 Post_{it} + \Sigma \beta X + \gamma_i + \varepsilon_{it}$.

All columns use firm fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the firm level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Table 8: The Effect of the SEC Hiring Freeze on Comment Letter Timeliness

Dependent Variable: Variables	<i>Con_Time_Span_{it}</i> (1)	<i>Rounds_{it}</i> (2)	<i>Time_to_CL_{it}</i> (3)
<i>Hiring_Freeze_t</i>	-0.44*** (-5.44)	-0.18*** (-3.83)	0.31*** (6.88)
<i>Full_Scope_{it}</i>	0.04 (0.84)	0.10*** (2.97)	-0.014 (-0.76)
<i>Full_Scope_{it} x Hiring_Freeze_t</i>	0.00 (0.01)	-0.07* (-1.78)	0.00 (-0.04)
N	6,377	6,377	6,377
Pseudo R ² (PPML)	0.07	0.02	0.29
Controls	Yes	Yes	Yes
Fixed Effects	Industry, Year	Industry, Year	Industry, Year

This table presents Poisson maximum likelihood regression results examining the effect of the SEC hiring freeze on review timeliness. The estimated regression equation is $Timeliness_{it} = \beta_0 + \beta_1 Hiring_Freeze_t + \beta_2 Full_Scope_{it} + \beta_3 Full_Scope_{it} \times Hiring_Freeze_t + \Sigma \beta X + \gamma_j + \gamma_t + \varepsilon_{it}$.

All columns use SIC2 industry and SEC fiscal year fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the SIC2 level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Table 9: The Effect of the SEC Hiring Freeze on Firm Financial Reporting Quality

Dependent Variable:	<i>Restatement_{it}</i>	<i>REM_{it}</i>	<i>AEM_{it}</i>	<i>Total_EM_{it}</i>
Variables	(1)	(2)	(3)	(4)
<i>Hiring_Freeze_t</i>	-0.12*** (-5.59)	-0.09 (-1.28)	-0.28*** (-2.61)	-0.24 (-1.08)
<i>LargeNoCL_{it-1}</i>	0.00 (-0.51)	-0.01 (-0.46)	-0.08*** (-2.53)	-0.08 (-1.05)
<i>LargeNoCL_{it-1} x Hiring_Freeze_t</i>	0.01 (0.72)	0.00 (0.09)	0.18** (2.20)	0.35** (2.01)
<i>N</i>	12,586	4,614	4,614	4,614
Adj. R ²	0.25	0.53	0.83	0.27
Controls	Yes	Yes	Yes	Yes
Fixed Effects	Firm, Year	Firm, Year	Firm, Year	Firm, Year

This table presents OLS regression results examining the association between the SEC hiring freeze and restatement and earnings management activity in filings that were likely reviewed (i.e., large firms) but did not receive a comment letter for a sample of filings from 2011-2020. The estimated regression equation is $FRQ_{it} = \beta_0 + \beta_1 Hiring_Freeze_t + \beta_2 LargeNoCL_{it-1} + \beta_3 LargeNoCL_{it-1} x Hiring_Freeze_t + \Sigma \beta X + \gamma_i + \gamma_t + \varepsilon_{it}$.

All columns use firm and SEC fiscal year fixed effects. All variables are defined in Appendix A. Standard errors are clustered at the firm level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

Table 10: The Effect of the SEC Hiring Freeze on Bid-Ask Spreads following Comment Letter Resolution

Dependent Variable:	BAS_{it}	$ABAS_{it}$	BAS_{it}	$ABAS_{it}$
Variables	(1)	(2)	(3)	(4)
<i>Hiring_Freeze_t</i>	0.02 (0.80)	0.03** (2.12)	0.05 (1.36)	0.08** (2.61)
<i>Full_Scope_{it}</i>	-0.04** (-2.62)	-0.01 (-1.14)	-0.04** (-2.57)	-0.01 (-0.54)
<i>Full_Scope_{it} x Hiring_Freeze_t</i>	0.03 (0.86)	0.00 (0.29)	0.03 (0.91)	0.00 (-0.23)
<i>N</i>	5,855	5,839	5,855	5,839
Adj. R ²	0.456	0.012	0.458	0.016
Controls	Yes	Yes	Yes	Yes
Fixed Effects	Industry	Industry	Industry, Year	Industry, Year

This table presents OLS regression results examining the effect of the SEC hiring freeze on a firm's bid-ask spread for the three-month period following a comment letter closing date on a sample of comment letter conversations initiated by the SEC from 2011–2020. The estimated regression equation is $BAS_{it}/ABAS_{it} = \beta_0 + \beta_1 Hiring_Freeze_t + \beta_2 Full_Scope_{it} + \beta_3 Full_Scope_{it} x Hiring_Freeze_t + \sum \beta X + \gamma_j [+ \gamma_t] + \varepsilon_{it}$.

All variables are defined in Appendix A. Standard errors are clustered at the SIC2 industry level. T-statistics are shown in parenthesis. ***, **, and * denote significant at the 1%, 5%, and 10% levels for the indicated two-tailed tests, respectively.

FIGURES

Figure 1: Incidence of Comment Letters and Selected Topics over Time

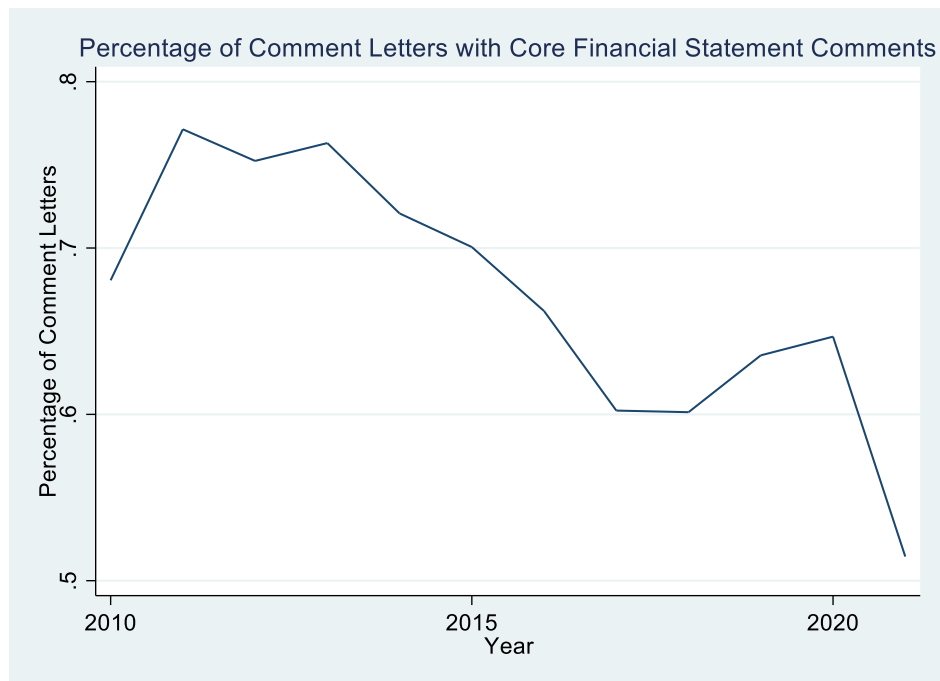
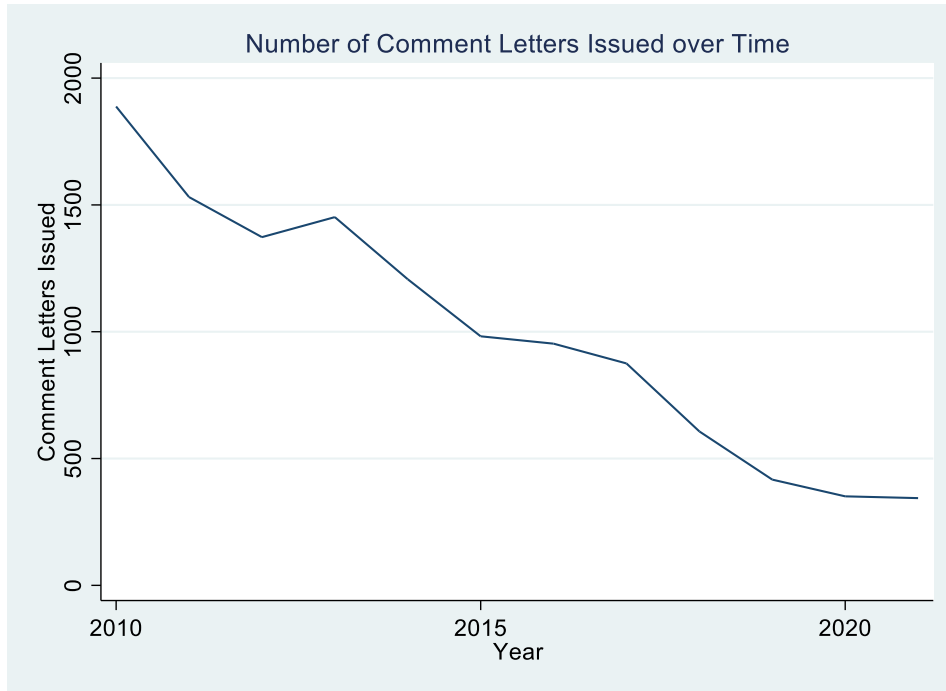
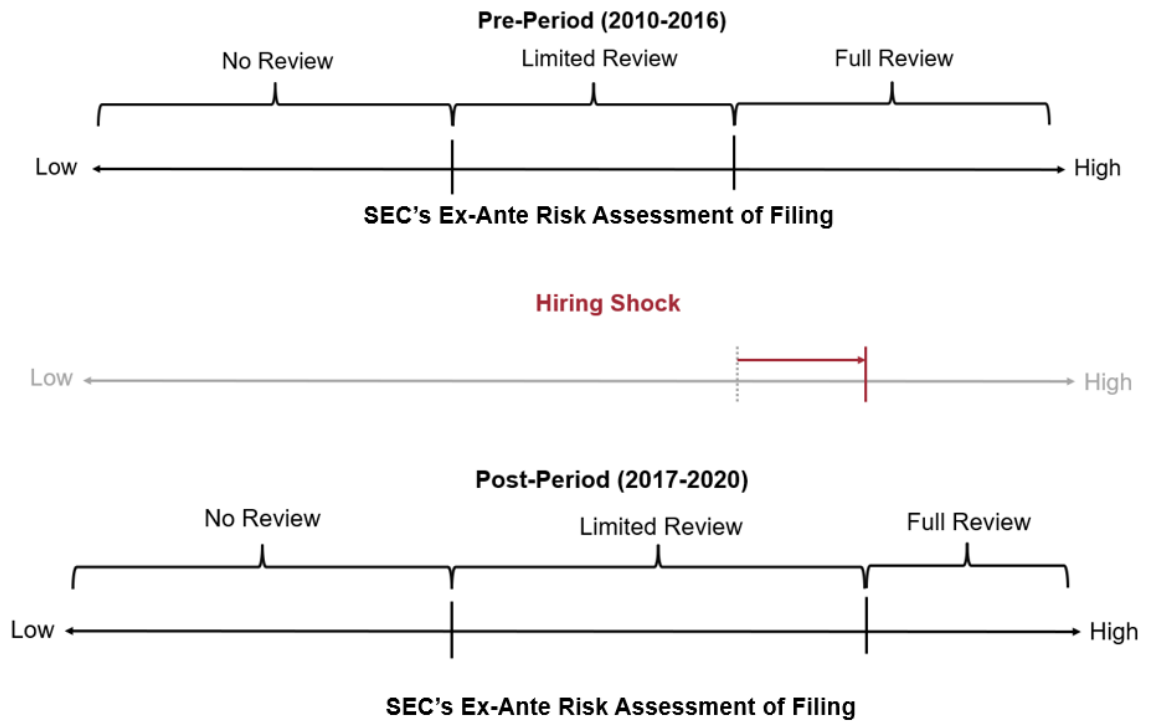
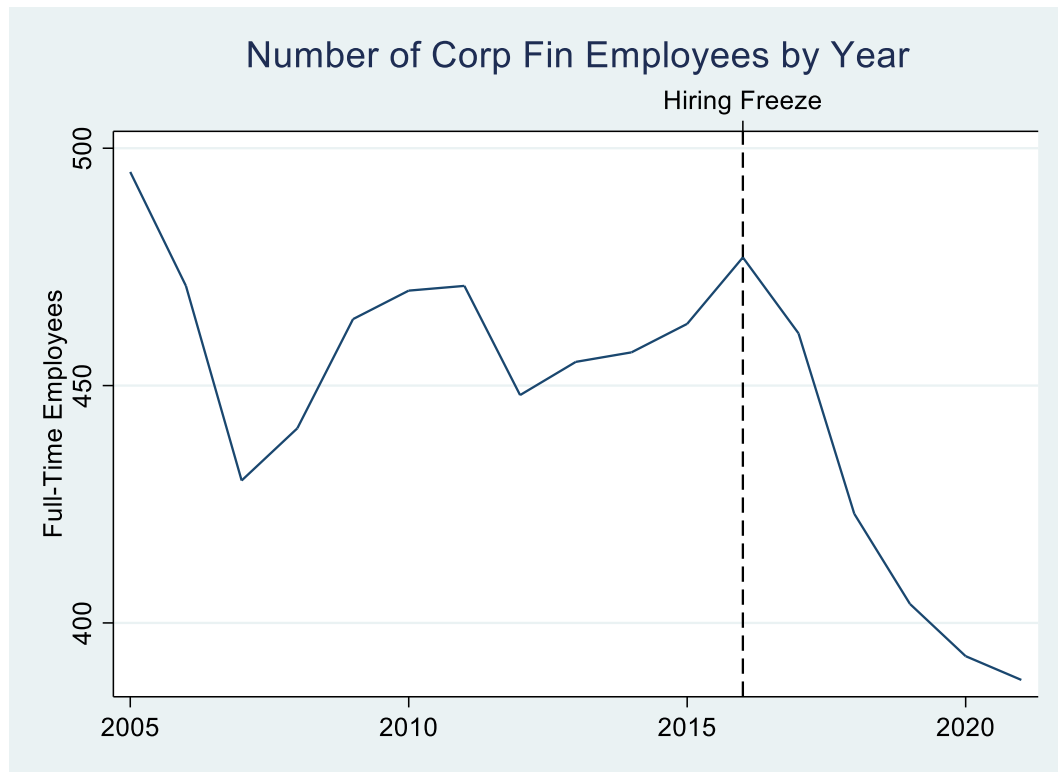


Figure 2: SEC Ex-Ante Risk Assessment of Filings Before and After Hiring Shock

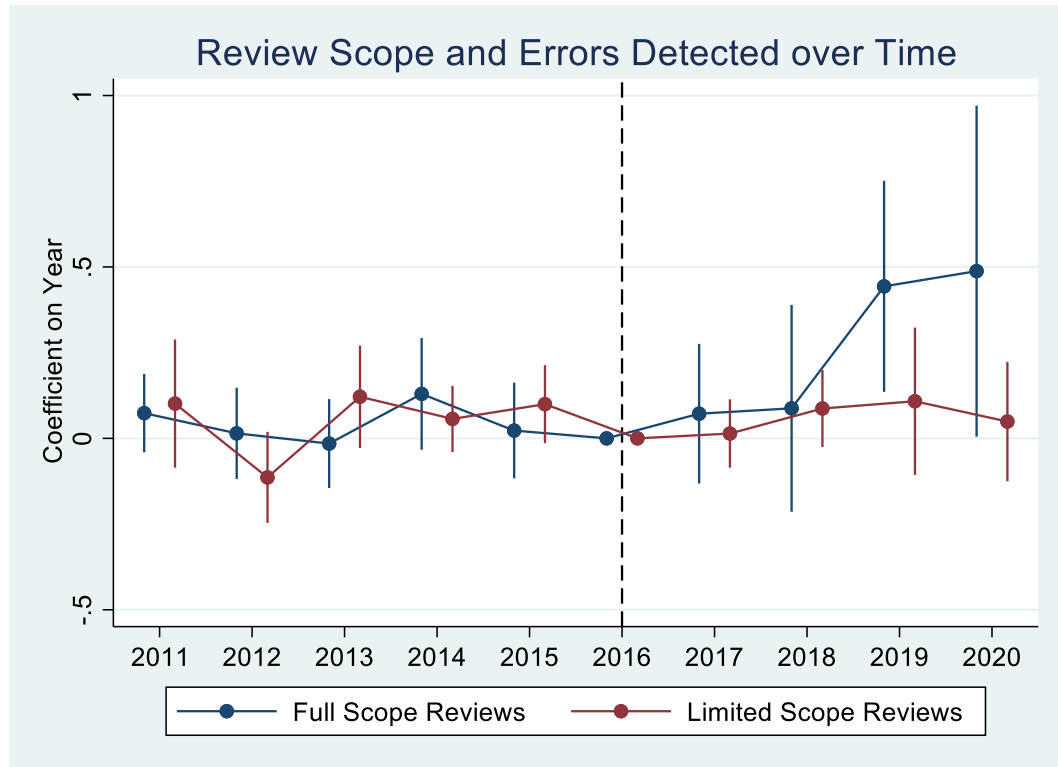


This graphic is a conceptual depiction of how an employee shortage may affect scope selection of 10-K and 10-Q reviews based upon the SEC's ex-ante risk assessment.

Figure 3: SEC Division of Corporation Finance Employees over Time

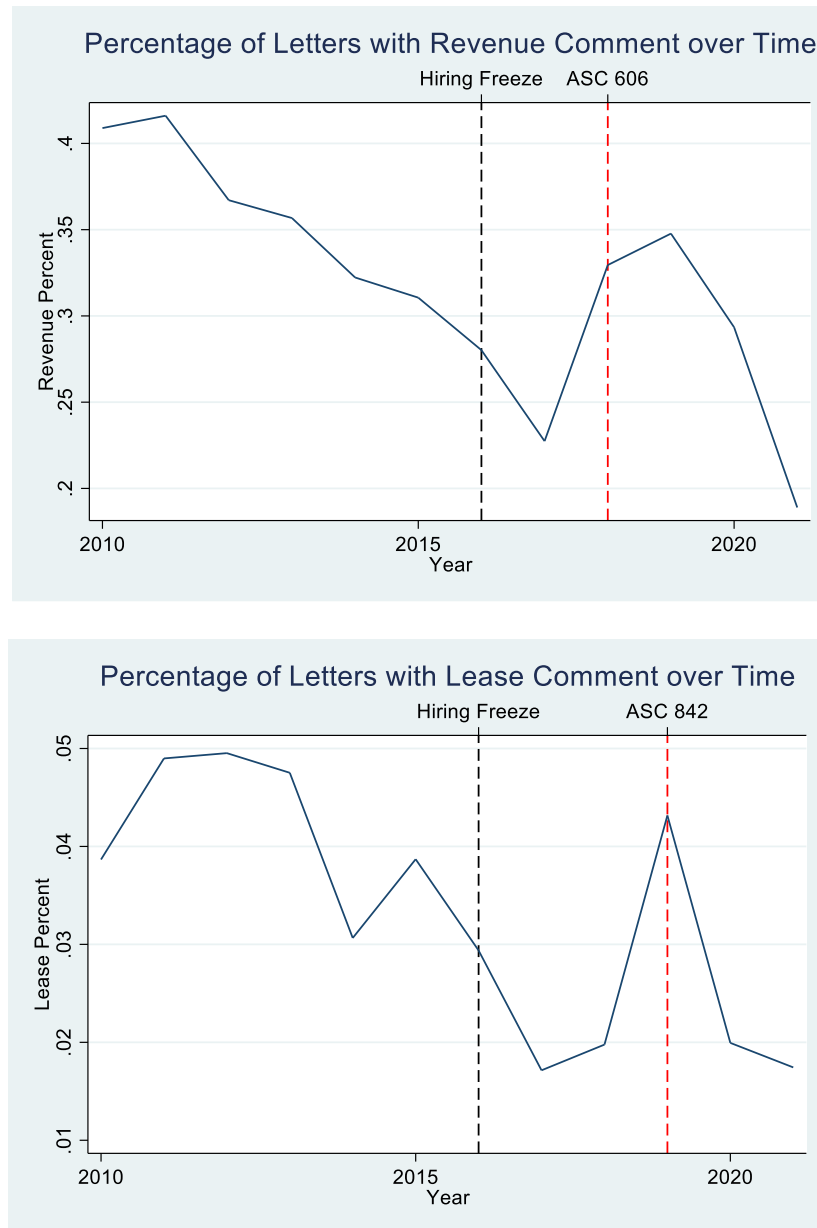
This graph plots the number of employees of the SEC’s Division of Corporation Finance over time. Additional detail is provided in Table IA.1.

Figure 4: Effect of SEC Hiring Freeze on Detecting Financial Reporting Errors in Full and Limited Scope Reviews



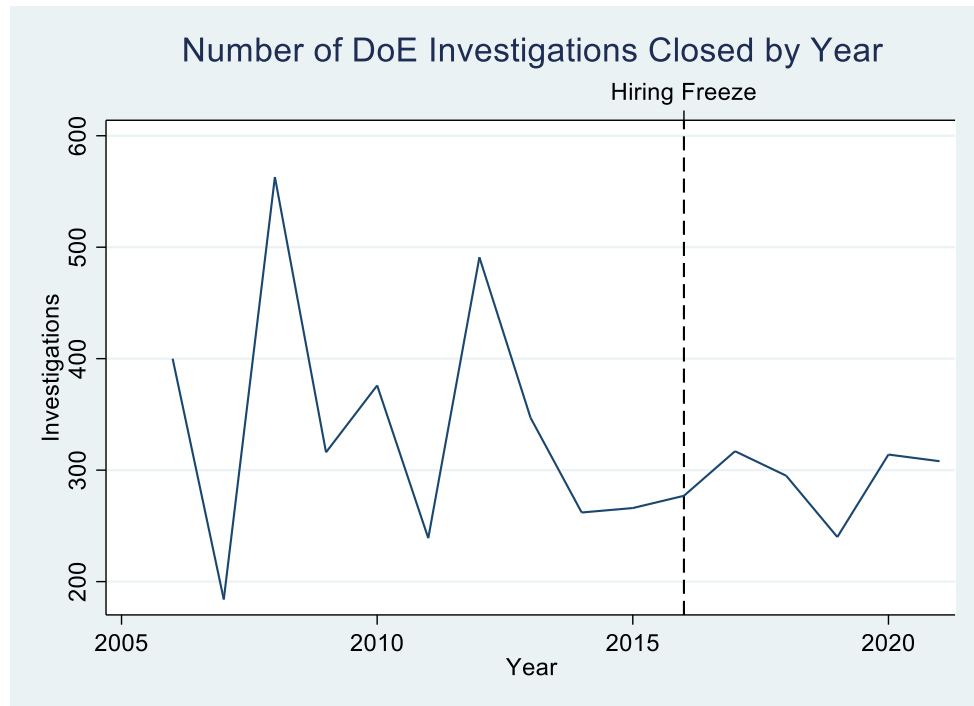
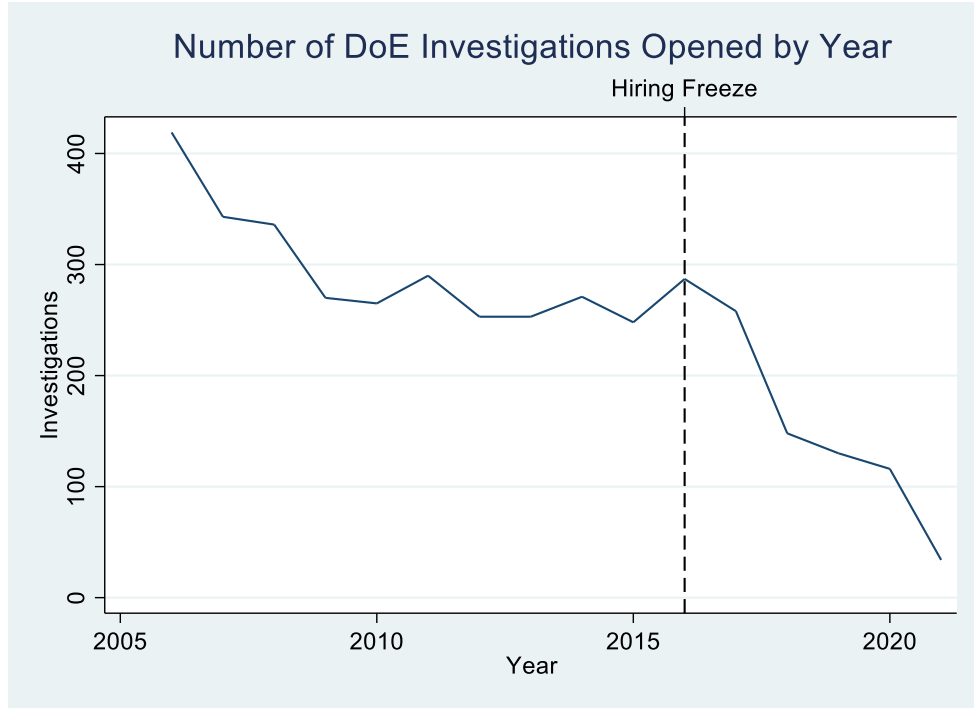
This graph plots the coefficient of separate regressions using full scope and limited scope samples of the likelihood of detecting a financial reporting error in the year the comment conversation is initiated by the SEC, with covariates and fixed effects from Table 4.

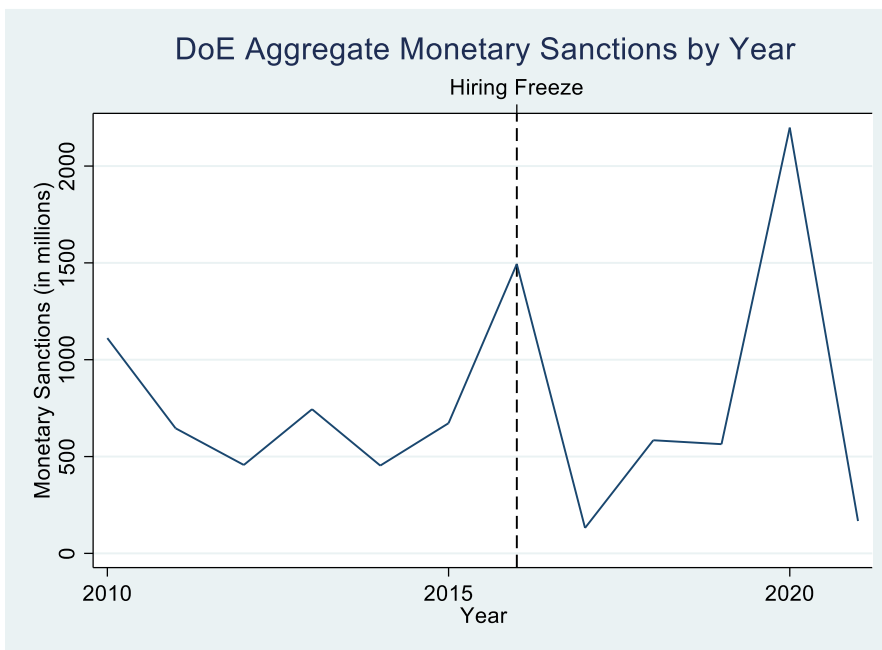
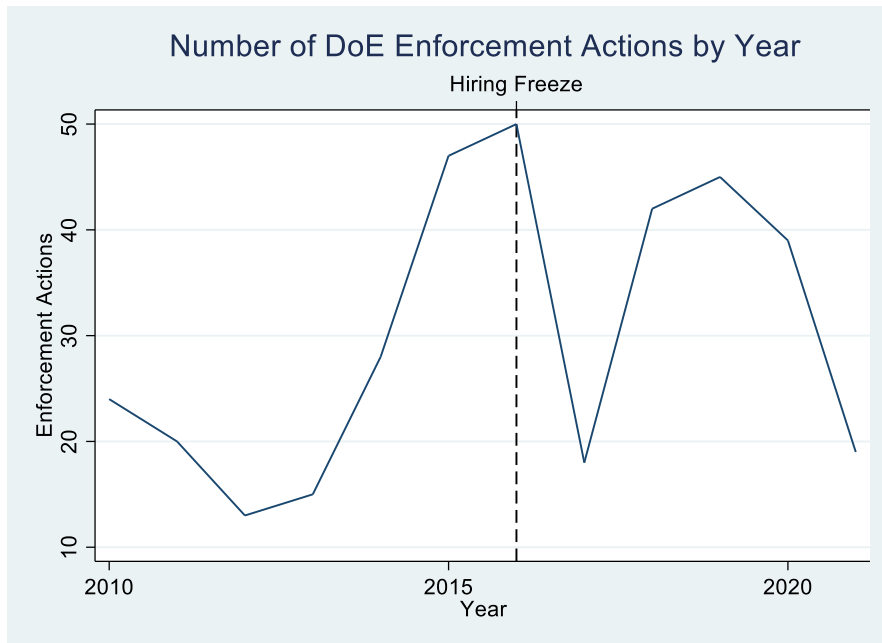
Figure 5: Comments related to Topics of Major Accounting Standard Updates Implemented during SEC Hiring Freeze



These graphs show the percentage of comment letters with a revenue and lease-related comment over time, corresponding to major accounting standards that became effective during the SEC hiring freeze (ASC 606 for revenue and ASC 842 for leasing, respectively.)

Figure 6: Effect of SEC Hiring Freeze on the Division of Enforcement (“DoE”)





These graphs show the number of investigations opened, number of investigations closed, number of enforcement actions, and aggregate monetary sanctions issued by the SEC's Division of Enforcement over time

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